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DECEMBER 1972

4 THE WORLD BURNERS
by Paul W. Fairman

16 SECOND MAN TO THE MOON
by Jack Williamson

37 THE GREAT IMPLICATION
by Stanley R. Lee

50 A LONG WAY BACK
by Ben Bova

67 THE JUPITER WEAPON
by Charles L. Fontenay

78 THE STARS FOUGHT BACK
by John Hagan

96 THE NON-EXISTENT MAN
by Wynne Whiteford

106 THE CHAIR
by O. H. Leslie

121 THE LAST CITIZEN
by Bertram Chandler

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THE WORLD BURNERS

By PAUL W. FAIRMAN

ILLUSTRATOR FINLAY

To Calloway the rusty freighter was a silver galleon rocketing down the spaceways; the girl was a princess; and the world he went to destroy was a city in a dream.

CALLOWAY would have been a hard man to forget if for nothing more than his looks; a big six-foot-three Irishman, he was lucky to have been born after the space age grew its muscles and a man wasn't barred for being big. Earlier, all spacemen were the midgets of the species what with weight to be considered. Calloway was also one of the homeliest men I ever met, but he was saved in this respect by a pair of the bluest eyes I have ever seen and after a little while you forgot his homeliness—it became an asset in fact; the ugly Irish mug, the deep azure eyes—and the sense of wonder.

That was how the examiners who made up his psych-sheet described it. Calloway rated straight pluses all down the line and because there was no classification slot for what ailed him they merely entered the comment: *This applicant possesses a unique enthusiasm we can best describe as a perpetual sense of wonder. He is happily amazed by practically everything. We do not consider the characteristic as a negative. We regard it as a rarity.*

So they let Calloway through and he became a *Spaceman, Conditional 3rd class* and applied for a berth on the Arcturus Lines at the same time I did. That was where I met him.

We were examined and accepted by the Arcturus medics on the same morning. We left the examining room together and out in the corridor Calloway turned those dreamy eyes on me and said, "We're going to the stars!"

I wasn't sure I heard correctly. "I beg your pardon?"

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"I said we're going to the stars."

"Well that was the general idea of applying to Arcturus wasn't it?"

"Of course."

"And let's hope we start pretty quick."

"I'm with you on that. Rocketing down the spaceways in a silver galleon."

"In a what?"

He smiled, the blue eyes filled with a faraway look. "A galleon is a kind of ship men sailed across the seas of Earth in very ancient times."

"Well, I'm afraid you've been misinformed, friend. You're going to ride a rusty old Arcturus freighter and you're not going to any stars in the near future. You're going to haul crates and boxes back and forth among the planets of this system."

He looked at me as though I were an unfeeling clod which indeed I was from his point of view. "My name's Calloway," he said. I told him mine was Raber and we shook hands and went for a drink.

That was how I met him and as time went on, my surprise didn't diminish, it became even more so when he began talking about the ancient writers and poets. We were assigned to the *Galactic*, a creaky old Arcturus carrier with two days to clearance. We took up together, each for want of better company, and at dinner the next night, he asked me, "Did you ever read Zane Grey?"

"Read him? I never even heard of him."

"I suppose that's logical. Ever read the poetry of Robert W Service or Rudyard Kiping?"

"No. I listen to tapes once in a while. Venusian musicals mostly, and I read the news bulletins. That's about all."

He sighed, "And thy name is legion."

"I don't get you. My name is Raber."

"Never mind. Service and Kipling were ancient poets. Their work is immortal although there isn't much interest in it now; there hasn't been for well over a hundred years—not since people quit reading. A shame. A crying shame. What Keats and Byron and Shakespeare could have done with today's world! Why, with Zane Grey's imagination loosed in modern times, we would have stories the like of which—"

"But that's all in the past—the dead past, today we—"

"Dead? Romance should never die! The wonder of creation should be as necessary a part of a man's makeup as his ability to read an astrochart."

I couldn't see any point in arguing it so I backed away and changed the subject and it wasn't until we boarded ship and were stowing our gear that the subject came up again; when I saw what Calloway had brought with him. Books! Of all the useless stowage imaginable, four books! No doubt of some

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value as ancient relics, but as out of place on a spacer as milk in a gin bottle.

I asked, "What in the devil are those for?"

"For reading. What else? They're four of my favorites. *The Ballad of Reading Goal, Death of a Salesman, Riders of the Purple Sage,* and *Cimarron.*"

"But there's plenty of taped entertainment aboard. There are even sensitapes—"

"Trash! A waste of time. Raber, if you'd just take the time to read one of these books—get the true thrill of romance—"

I wasn't having any, so I backed away again and changed the subject.

Now don't get the idea that Calloway was an inefficient dreamer or a bad spaceman. Quite the opposite. He was a dynamo and he could outwork and outmorale any man on the ship. Extra hours were his meat, his drive and willingness—I am sure—bound up in the belief that he was a part of progress; of a great living, breathing operation he called the modern age.

Nor was he a shy, retiring nonaggressionist. A sort of militant missionary for romance, on the contrary. I recall the rest period when he decided the idle members of the crew—lucky fellows!—should be initiated into the wonders of Arthur Miller. So he began reading the ancient play—*Death of a Salesman* aloud. Some of the crew listened, others went to sleep and one tough veteran called Calloway a crazy dirt eater.

Calloway put the book down and drifted over to his insulter. He stayed there for a brief time, and then went back to his book and the veteran listened with respect—minus three teeth, now—but with respect.

I got along well with Calloway, and even mildly enjoyed the chapters he read to me out of Zane Grey's *Riders of the Purple Sage,* a peculiar tale of antisocial goings on during one of the transitory periods in the history of early America. But the story enthralled Calloway and he no doubt knew it by heart . . .

That was the situation when we came into White Sands after a Martian run and the *Galactic* was pressed into government service under an emergency edict. The crew was pressed also and we were herded into the Post Director's office for a briefing.

You may or may not have heard about the thing. It was classified as vital but not dangerous because it was under control so it didn't get top rating on the news broadcasts. In fact I think it was played down because they didn't want rumors to get started.

A big man from the Space Commission briefed us on our part.

It seemed that a far space station, one of the few equipped with the Critchfield Scanners

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picked up a refracted playback of some events at the far edge of the continuum—out where infinity starts bending into time and space.

A planet out there was in some kind of trouble as evidenced by the fact that the entire population was being lifted off in a fleet of ships.

The fleet, some twenty globes, were already space born when the movement was located and the planet had novaed, evidently a planned annihilation resulting from delayed fission.

Our people had enough evidence—I don't know exactly what it was—to convince them it was a nonhostile move and the fact that the fleet would orbit into our system, completely wrecking us, was a miscalculation rather than an intent.

So an intercepting move became necessary. We had to get out there and cut them off.

The commission brains assumed that the globes were in fixed orbit so the passengers would have to be taken off in order to reorbit the globes on a new weight-mass basis.

Our old *Galactic* was to participate in the operation. They would equip us with a Marquis space-drive unit and if the speed didn't rip the freighter to pieces, we would make it all right.

As we left the briefing, Calloway's eyes were fairly glowing. "Isn't it the most fantastic thing you ever heard of?"

It hadn't struck me that way. "What's so fantastic about it?"

"Why, man! Doesn't it get you? A whole population building a fleet of ten-mile-thick space globes, then embarking into the unknown and blowing up their old world behind them! Don't you get a thrill out of it? Isn't it wonderful?"

"Not particularly. What's so extraordinary about any of it? They're obviously an advanced race, so building the ships would be no great job. It probably took ten or twenty years. And any idiot can fission a planet if he has the equipment."

I had disappointed Calloway. "You're as bad as all the rest," he complained. "The wonders of creation, of the universe we live in, just pass you by. You take miracles for granted."

"There are no miracles. Everything that happens can be scientifically explained."

"Of course, but you miss my point entirely! Romance is the spark—the soul-stuff that turns dull reality into a breath-taking adventure. Don't you—"

"Afraid not, old fellow. What say to a few drinks before we mount our silver sky-stallions and—"

"You're hopeless," Calloway snapped. But we'd become such good friends that he let me keep my teeth. . . .

The next outburst of his wonder complex came a few watches out, when he rushed into our cabin and said, "Have you met the esps?"

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"Good Lord, no. Why would I want to meet the esps?"

"Because they're marvelous! Why it staggers the imagination just to think of them. Torch bearers! Specimens of the superman of the future. The mental man. It gives me a thrill just to watch them talking to each other in dead silence; conversing with their minds!"

"But look here, Calloway. If they couldn't talk to each other mentally they wouldn't be a damned bit of use to us. That's what they're for—to get across to strange races and save us from lugging bulky translation machines that might or might not work."

"All right," Calloway flared. "But can you do it? Can you reach into a man's mind and get his thoughts, no matter what language he's thinking in, and translate it into your own tongue?"

"Of course not, but I can clean and recharge a jet tube better than any esp that ever lived."

"You're hopeless!"

"I suppose so. But you'd better use a little of your mental energy hoping the race we're contacting have esps of their own. If we can't understand each other we may be in for a fight."

"There!" Calloway grinned in triumph. "You just contradicted yourself. By saying that, aren't you admitting they are much more important than we are? If it wasn't for their talent at reception all of us might be killed."

"And if it wasn't for my ability to clean a tube right, we'd be damned sure of being killed —blown all to hell and gone."

"You don't even argue intelligently," Calloway snorted. "You should read some of the ancient debates; Lincoln and Douglas; or some of the immortal speeches by William Jennings Bryan, or Winston Churchill."

"Can't think of anything that could possibly be duller," I said.

"I can't understand why I waste my time trying to light a spark in you," Calloway said as he plunged into his bunk and snatched an ancient copy of Oscar Wilde's atrocious poetry.

That was how it went but while Calloway wasn't able to get his wonder concepts over to anybody else, neither did we dampen in the least his flaming enthusiasms and wide - eyed interpretation of everything around him.

Personally, I secretly admired this dynamic but misdirected enthusiasm for life even though I didn't share it and only once did Calloway really annoy me. This was during an off-watch period when he picked up a primer key from the table and said, "Did you ever stop to consider the tremendous power—the great cosmic law—that holds the electrons and protons in this bar of metal together?"

I said, "Calloway! Stop it! I've had about enough! Next you'll start telling me that just sitting around breathing is surprising and miraculous!"

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"Well, as a matter of fact, the processes of life are—"

We had some pretty sharp words, then, and weren't speaking for a couple of watches, but a short time later, we made destination and I stood looking out a port into the star-blaze that reflected on the migrating fleet and I heard a hushed voice at my shoulder.

"Isn't it the most magnificent sight you ever laid eyes on?"

What could you do with a man like Calloway?

In fact this time, he had a point. It was an arresting pattern in geometrical precision; a vast fleet of perfect globes; shining metal balls so clearly magnified by the vacuum of space and the sharp cosmic refraction. As I watched I pitied the traffic engineers as our four-thousand-ship fleet slipped into orbit with the two hundred huge vehicles of the space voyagers. Plotting the pattern of integrated flight and making it work called for fantastic precision. Yet, in the end, it was accomplished with only four minor collisions.

Now that we had made contact, the problem went into the first of its difficult phases. Action assignments were fanned out from our master ship after our radio contact brought only an unintelligible response from the globes. It was the opinion of our experts that our overtures were interpreted as hostile.

It appeared that the voyagers were presenting a non belligerent front as no structure for defensive weapons were apparent on the globe exteriors. So we chanced a survey through use of the powerful Xenar exovis; a comparatively new device for looking through thicknesses of obstructing material—a utilization of the old X-ray method. The result could have been disasterous because, while we could see into the globes without difficulty, some component of the voyager's metal made it vulnerable to the rays and it started to turn molten.

This left only our esps. Calloway and I, as able spacemen, were assigned as escorts to a blond, frail youth who had never before been in space. We got him into a suit, talked down his fright, and practically carried him to our objective—the shell of the lead ship.

Successful contact proved that the voyagers had esps of their own who were on the job.

We were tuned in on the esp's wave as he reported back to the ship and I sensed Calloway's thrill as we stood there magnetized to the metal shell listening to the exchange. Headquarters sent the words to be translated into thought and the esp sent back the voyager's replies verbally.

"We are not hostile. We are not hostile."

"They say welcome. Why have we intercepted them?"

"We saw your planet fission. We assume you are searching for a new location."

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"Not searching. They are orbiting to a habitable system they have located. I am unable to translate the location."

"You have made a miscalculation. You are orbiting through our system and two others. You will destroy them and yourselves. You did not plot an open orbit."

"They say that is impossible."

"Is your course preorbited?"

"They say yes, but error is impossible."

"Recheck. There must have been variables in your computations. We suggest you let us revaluate for you in the light of more current knowledge."

"They say they will recheck. If revaluation is necessary in their opinion, they will make the request."

We left it at that and returned to our ship and weren't in on any more such exchanges. But after a while word got around that the voyagers asked for the reval and acknowledged their error, thus opening the second phase of the operation—transfer of the population from the doomed globes.

Calloway and I, now functioning as a unit, were assigned to escorting our top men to the globe we had contacted, this one proving to be the lead ship of the group.

The overall operation was a formidable one and a great deal of primary planning was necessary. We spent twenty watches in the globe, doubling in several capacities, mainly occupied with helping to take census.

The governmental form was monarchial, but with almost none of the pomp and prestige of kingships as Earth has known them. I learned this from Calloway, who was well up on such phases of ancient history, so I took his word for it.

I only know that the king of the World Burners, as Calloway romantically insisted upon calling them, was a completely ordinary fellow who stood out in that he did all the talking, gave all the orders, and was implicitly obeyed. No one bowed to him, they only asked for orders.

Calloway went into ecstacies over the globe's interior. In fact I was impressed myself. Living well was a part of this race's heritage from far back. The inner construction of the globe was a materialization of pure genius. In a ten-mile diameter, they achieved a flat, staple, circular city, artifically illuminated and bathed in a completely adequate atmosphere. And the overall word for it was *beautiful*. Parks, gardens, ample water, and even a controlled rainfall that kept everything fresh and green.

The whole system, based on fission power, was self-perpetuating, according to the information relayed to us through our esp. Perhaps we could have learned the language—a sort of birdlike warble, but our glottal equipment was not geared to speaking it intelligably.

Calloway did come to under-

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stand a few words at least, but he had a reason in the form of the head man's—the king's—daughter.

To all intents and purposes, she made nothing at all of being a princess. She was gorgeous by Earth standards, but so were all the other females, this being a well-formed race physically—godlike—in Calloway's "sense of wonder" terms. In fact, Calloway didn't find out who she really was until he had persuaded her to walk with him in the gardens a couple of times.

She was a fiery female, a member of the minority that did not approve of the transfer and abandonment of the globes as decreed by the head man. Calloway told me this, admiring her for her spirit and independence.

They were together a great deal of the time, some of which Calloway should have been using for his duties.

Transferring the entire population of the two hundred globes was a monstrous operation, probably the single biggest project ever attempted in space.

It was the head man's basic insistence that all the population—right down to the last individual, be removed from the globes. This could seem like overemphasizing a natural result, but such was not the case when you consider the total area involved in two hundred ten-mile-wide cities and add to that the fact that some of the population didn't want to be moved in the first place. Open rebellion was out of the question, but the race was not so highly evolved as to exclude possible individual efforts to avoid the dragnet.

So the operation was a little like emptying a sugar sack—but emptying it completely, so that not one, single grain of sugar was left in the sack. And the operation was just about that difficult.

At times, even without a knowledge of the language, I detected an atmosphere of various, small-group resistances, even among those of the population who openly accepted the inevitable move.

And I think this was detected also, in the higher echelon, because the transfer operation was correspondingly fine-meshed.

This meant work, work, and more work, and at times I envied Calloway his eternal romantic outlook on things in that it gave a buoyancy to his movements and an enthusiasm that was contagious.

But I still shrank from his missionary work in this direction.

"Raber," he would say, "you're going to remember this operation. You're going to tell your grandchildren, one day, about the World Burners and how you helped move them out of their globes and saved our own world from destruction."

"You're wrong. When I get through with this back-breaking slavery all I'll want to do is forget it."

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"That's what you think now. But wait 'til you find yourself a hero. Then you'll play the part. It's fun being a hero, Raber."

Maybe he was right but I was going to have to get a different perspective to see it. Right now it was double watches, general frustration, and hard work.

"Still, the work got done. The population transfers were put on a schedule of two globes at a time. While census and preparatory routine went on ahead, the globes—by pairs—were emptied into prearranged locations in our own fleet. Then the mop-up squads went over the vacated globes practically inch by inch after which they were locked and carefully nudged out of the fixed orbit to swing away into space on a new trajectory and drift on forever.

Each time a pair of globes were thus stripped and dispatched, Calloway would hold up a hand in salute and say, "Farewell, brave traveler. Good luck on your trip into the eternal," or something equally sticky and sentimental.

His princess ate it up, though. They were together every permissable minute and a great many that weren't permissable. I covered for Calloway quite a few times, but I didn't particularly mind. In fact I preferred it that way because, while Calloway was no doubt able to impart some of his drive and verve, he was like strong seasoning on food—you didn't want too much of him.

The project went very well. Globe after globe was emptied and shunted off until the voyager fleet was reduced to a quarter of its original size.

The navigators were of course watching the time-lapse, computing the overall drift with an eye to correct reorbiting when the project was finished. It was an exacting process.

This last operation was not as simple as it appeared what with the size of the fleet. Moving two thousand ships through space without collisional danger is ticklish business.

The average dirt-eater, looking up at the heavens, judges space to be a vast emptiness sparsely decorated with star points light years apart.

This is not exactly the situation. From where the astrogator sits space is crowded; packed with lethal lumps of matter, each of which is moving on a course of its own—theoretically fixed and predictable of course, but practically as unjudgable as a cloud of gnats pulsing about on a warm summer Earth night.

Thus the astrogator must take the best orbit he can find and in our situation the end of the project had to conform to their findings rather than astrogation awaiting a signal from the project execs.

The astrogators plotted a line-cycle based on the progress of the first three-quarters of the work, fixed their projected orbit, and told the execs at exactly

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what moment the fleet must move into its homeward arc.

And they didn't leave much leeway; they couldn't with the entire operation drifting dangerously close to a gypsy star-swarm.

So the tempo was increased by lengthening the watches and accelerating movement wherever possible.

This speeded things up, but frayed nerves and less-smooth handling set up irritation patterns between our people and the voyagers. Resistance groups were directed and pushed instead of being persuaded and led and there were times when only the head man's unquestioned authority prevented actual violence.

Calloway definitely in love with his princess, was swayed by her hostility to our people and openly critical of our methods.

"Raber," he told me, "we've got no moral right to push them around this way. It's become practically a kidnapping operation."

"That's ridiculous and I'm surprised at your taking such a childish view. You know the facts. We've got to get done with it and out of here or the whole fleet will keep rendezvous with a wild cluster on the way home."

"That's not true. They're just out for a record. They could complete the operation and drift until a new orbit was plotted."

"You know better than that, Calloway. It would be too dangerous."

"Well, it may be too dangerous not to. There's new resistance among them and she swears she won't go—that she'll find a way to evade the final search."

He was referring, by *she*, to the princess. He always spoke of her as *she*, giving the word a special connotation and individuality by inflection and by actual reverence in his tone.

"No one will evade the final search of any globe," I said. "The combing is foolproof and the head man is with us all the way. You're talking like a child. You've got to face reality."

But Calloway's nature was such that he could not follow that sort of tack for long. His natural effervescense always bubbled up to smother petty things and saturate him with a personal joy at the wonder of things.

And so we came, finally, down to the last pair of globes with the chronometer crowding us, brushing away the last precious hours and pushing us relentlessly toward the irrevocable finish of Operation transfer.

The globes were cleared and the population checked into our ships by the electronic calculators against the master patterns of the original census total. Then the computation was evaluated and six units were missing.

Calloway and I, members of the final cleanup squad, waited with the others for identification of the absentees. It came through and Calloway grabbed

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my shoulder, his nails digging in.

"She's one of them."

"So she is. Let's go find her."

This being the last ship, three squads were dispatched for the cleanup. It took seven hours and the sonic-radar units we carried —tuned to the human heart-beat —ferreted out five of the reluctants in widely scattered points of the empty city.

Five. But not six. And when we got these reluctants to the exit ports for identification check, Calloway grabbed my shoulder again.

"It's her! She's the one that's missing."

He was right. It seemed obvious that in some miraculous manner, the girl had evaded sonic-radar equipment that was considered to be infallible. It seemed impossible, yet the girl was missing.

But oddly, I thought, Calloway's reaction was one of elation, admiration, rather than distress. His blue eyes glowed and while the squads waited for orders from the control center, he drew me aside.

"Do you remember the climax of *Riders of the Purple Sage?*"

Even from Calloway, this digression rocked me. I said, "Good Lord, man! Your girl is missing with minute zero coming up and all you can think of is ancient literature."

"That's what makes me remember it. In *Riders of the Purple Sage,* the hero and the heroine are running from the villains. They enter a closed canyon through a narrow pass. The hero can stop the villains by pushing a big stone down that will destroy the pass and seal the canyon."

"Calloway! In the name of all sanity—"

"Let me finish, Raber. Rolling the stone will stop the villains, but it would seal the hero and the heroine in the canyon for the rest of their lives. They would never be able to get out. The hero hesitates to inflict this imprisonment on the heroine. He isn't even sure that she loves him. So he tells her how things are and she answers. 'Roll the stone, Lassiter. Roll the stone.' So he does and they are sealed in the canyon—just the two of them—forever."

"Touching, but I fail to see how such fiction—"

"Romance, Raber! Pure romance. Think of it. The two lovers isolated—"

The orders came through at that moment and I pressed forward to hear the verdict. It was: *End search. Time has run out. Seal globe and return with the five. Use all possible haste.*

There was a scramble after that. We sealed the globe and while we kited back to the fleet a jet rammer was attached to the side of the globe and ignited. It would push the globe out into a harmless orbit and then burn out.

You've no doubt guessed it—a final checkup showed Calloway to

(Continued on page 36

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SECOND MAN TO THE MOON

By JACK WILLIAMSON

ILLUSTRATOR SUMMERS

It takes team work to get to the moon and back again. Doesn't matter at all if you hate the other guy on your team.

Rescue Rocket to Search for Lost Spaceman

CAPE CANAVERAL, Fla. —General Otto Hahn, commander of the new United States Space Corps, announced at noon today that the giant rocket *America IV* will take off within a few hours in an attempt to rescue Captain Dan Slavik, space hero who carried the American flag to the moon.

Civilian space experts were quick to predict disaster for Captain James West, who will pilot the rescue rocket. They point out that the Space Corps has failed to find and remove the mechanical "bug" that has already destroyed three of the four American moon rockets.

Captain Nick Emilani was only eighty miles above Cape Canaveral when his *America I* exploded into a green fireball visible from New Orleans to Havana. Captain Carlos Prieto was killed when his *America II* went out of control, six hundred miles above the Earth, and collided with the satellite stage that held his fuel for the actual moon trip.

Captain Dan Slavik, who took off from the rocket base here only eight days ago, was reporting unexplained control difficulties as he approached the moon. His radio transmissions were suddenly interrupted, as he prepared to fire a marker missile containing a shaped charge designed to spray powdered pigments through the vacuum of space to the surface of the moon. Slavik was at first believed to

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have died like Emilani and Prieto.

Only forty-eight hours ago, however, observers saw the missile explosion which painted an enormous American flag across the sunlit side of the moon. Although Slavik's radio has not been heard again, this spectacular signal from the moon is proof that he is still alive. Fearing that he is trapped in his damaged rocket on the moon, in danger of being cooked alive by the two-hundred degree temperatures of the lunar day, General Hahn has taken personal charge of the final preparations for West's rescue flight.

At his press conference today, Hahn refused to answer his civilian critics, who attribute all these disasters to the military choice of a solid fuel for the moon vehicles—

Waiting on the windy high platform of the gantry, two hundred feet above the scorched concrete firing pad at Cape Canaveral, Jim West looked up from that newspaper item, with a quick grin at General Hahn.

"Maybe they're right." Worry seamed Hahn's lean face. "Maybe we should call it off."

Leaner and younger than Hahn, West answered with only a shrug. Moving clumsily in the sagging fabric of his uninflated spacesuit, he crumpled the newspaper and tossed it into the wind.

"You know the odds are a thousand to one that you'll lose your own life without helping Slavik," the general insisted. "Even if he is your buddy—"

"He's no buddy of mine," West's easy grin creased into a brief scowl of trouble. "In fact, I have personal reasons to dislike him. But he's on the team. I intend to bring him back—even if I have to punch him on the nose when we land."

"If you're all that determined—good luck!"

Silently, West shook the general's hand. He turned slowly to look back at the long empty beach and the sprawling buildings of the base, and then calmly climbed the steel ladder to the door in the blunt, bright nose cone. Moving stiffly in the pressure suit, he ducked into the narrow door of the ship.

"Watch your head—"

The general's warning came an instant too late. He rubbed his bruise and made a face at the heavy fire extinguisher clamped just inside the door. Painfully, he grinned at Hahn.

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"Couldn't you find a better place for that?"

"Look inside." Hahn waved toward the yellow oxygen tanks and black-cased electronic gear that filled every spare inch of space in the nine-foot metal ball that nestled in the nose cone. "Keep it where you can reach it," he warned. "We've got just one clue to that bug in these beasts. Emilani had time to yell fire—"

"Minus two hours!" a rasping speaker in the rocket interrupted him. "Ground control to pilot," another voice cut in. "Final instrument check will now begin. Pilot, are you ready?"

"Pilot ready."

Lying on the crash pad, two feet beneath the knobs and dials of the intricate electronic gear that would really pilot the rocket, he began the elaborate checking procedure —the last search for the undiscovered "bug" that had got *America I* and *America II* and *America III*.

Two hundred miles from Cape Canaveral, Miss Victoria Hill came home to her rooming house from the Smithwick Junior High School. She found a letter waiting for her, on the table in the hall. Two minutes later she was on the telephone, calling Jim West.

"You're too late, Miss," a brisk official voice informed her. "He's sealed in the rocket, and the final countdown has already started. We can't interrupt the firing procedure."

Vicky Hill had red hair, however, and a very stubborn chin. Twenty minutes later she was talking to General Hahn himself, begging him to delay the take-off.

"Because of a horrible misunderstanding!" she gasped into the phone. "You see, I met them both last year—Jim and that Captain Slavik—when I brought my ninth-grade science class to see Cape Canaveral. Slavik—well, he wasn't very nice. But Jim was wonderful! Jim and I almost got engaged. But then he didn't call—didn't call me any more—"

Her voice cracked, and she had to stop.

"Please, Miss Hill. I'm extremely busy—"

"But I've got to talk to Jim." She was frantic now. "Because I just got his note—his farewell note. Now I know why he didn't call me. He believes I'm in love with Slavik —I guess Slavik told him something that wasn't altogether true. I think he's try-

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ing to rescue Slavik for my sake—"

"I doubt that," the general broke in. "I know West and Slavik aren't exactly friends. But they're fellow spacemen, both devoted to our great task—which is blazing a trail from Earth to the planets. I'm very sorry you're upset, but nobody here at Cape Canaveral has time just now to waste on any trivial romance—"

"It is not trivial," she interrupted desperately. "Not to me! Not to Jim—"

The telephone clicked in her ear.

Back in her room, she tried doggedly to grade a stack of algebra papers, but x wouldn't equal anything. She snapped on the portable television set that Jim had given her—while she still thought they were almost engaged.

"—Clem Peabody, bringing you the moon flight." The hawk-faced announcer was holding a little globe, pocked with the craters of the moon and marked with a tiny flag. "It is minus five minutes, here at Cape Canaveral, as we bring you General Hahn in a taped interview."

General Hahn looked almost as lean and hard and young as Jim.

"Now, General, can you tell us how a rocket moves, out into empty space?"

"The same way you do—by pushing back on something else."

"Out in space, what has it to push against?"

"Its own jet of burning fuel," the general said. "For every action, there is an equal and opposite reaction, as Newton proved. The expanding gases move backward, and the rocket is driven forward. To get away from Earth, you need a take-off velocity of about seven miles a second. That means the moon rocket must be nearly all fuel. Captain West is sitting on a small mountain of solid high explosive."

The rocket ship flashed on the screen, a round white tower standing tall beside the spidery gantry crane, with the flat sea wide as space beyond. Staring at it, Vicky Hill clenched her hands and shivered as she listened.

"The pilot's sphere weighs only four tons. The fuel in the ground stage weighs five hundred tons—and that's just enough to put the sphere into orbit, six hundred miles up. There West must pick up the satellite stage. That's another eighty tons of solid fuel—enough to take him out to the

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moon, and get him back to his rendezvous with the re-entry vehicle that is already waiting in orbit to carry him down to Cape Canaveral again."

"Thank you, General Hahn!"

Clem Peabody's excited hatchet face was back on the screen.

"The time is minus one minute, here at Cape Canaveral!" His voice was authentically breathless now. "Captain West is strapped to his crash pad, ready to go. His only duty now is to monitor the instruments. Ground control will guide the rocket for him, so long as he's in range of their beam.

"Minus thirty seconds! Here's the official countdown!"

"Twenty seconds!" twanged a thin nasal voice. "Ten seconds! . . . Five! Four! Three! Two! One! *Zero!*"

For a moment Vicky thought nothing was going to happen, after all. But then a great sudden cloud of white smoke exploded from the rocket, with a rumble like thunder. At first the smoke was all she could see. Then the rocket rose slowly out of it, standing on a tail of fire. It lifted faster, faster, till the buildings and the sea were gone and it was only a faint gray blur fading on the little screen.

The first roar of the rockets came only faintly to West, for their driving fire was nearly two hundred feet beneath his insulated sphere. He felt a slight vibration. Then a gentle pressure thrust his body down against the crash pad, and steadily grew.

"Ground to pilot!" It was General Hahn himself. "Jim, you're on the way! But don't forget to watch for fire!"

"I'll — watch — " West's muscles tightened, fighting that growing acceleration thrust. "And I'll bring—" He had to stop and gasp for breath. "Slavik back!"

His breath was all crushed out again. As the fuel burned, the total mass of the rocket grew less. Since the thrust remained the same, the acceleration mutliplied. Its gigantic power ground him into the crash pad. His chest hurt. His eyeballs ached. Blackness fogged the instruments above him. Somewhere, he heard a shattering crash.

"Ground to pilot!" General Hahn's anxious voice seemed faint and distant. "Was that a meteor?"

He had no breath for an answer. Anyhow, he didn't know.

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"Hang on, Jim!" the general's voice was cheering him. "Ten more seconds, and you'll have orbital velocity. This is it. *Motors off!*"

He waited for that crushing hand to lift. Instead, it grew heavier. The rocket motors kept roaring in his ears, their fire nearer now. He struggled to reach the manual controls, but his arms were pinned down with their own pitiless weight. Blackness was drowning him—

But suddenly then he was weightless, floating in a silent bath of air. He gasped and gasped, fighting to fill his empty, burning lungs.

"Ground to pilot!" Hahn's sharp voice crashed into that sudden quiet. "What went wrong?"

"The rockets burned—" He struggled for his breath again. "Burned five seconds too long."

"Try to locate the trouble, while you can."

He stirred his bruised body gingerly. His legs floated off the pad, and held themselves up. His arms drifted. He turned his head to find the dials above him, and the movement made the whole rocket spin insanely.

"If I can," he whispered. "But I feel—I can't tell you how I feel—"

He loosened the straps and swam toward the door. Beyond the little plastic panel, it was dead black night. He snapped off his instrument lights, and the stars came out. They were hard sharp points of unglittering fire. As his eyes adjusted to the dark, their frozen, many-colored splendor stopped his breath again.

He watched them, fighting his vertigo, till a violet veil was slowly drawn across them. Behind it came a long misty curve of dazzling light, that blotted out the stars. He saw the cloud-blurred shape of Florida—above him, somehow, not beneath. He clung with a desperate sick longing to the great, blazing crescent Earth, until at last the crazy spinning of the rocket ceased.

"Pilot to ground," he called hoarsely. "Now I'll look for that bug—"

Sitting huddled before the television set that he had given her, Vicky Hill followed him out toward the moon. She chewed her nails when she learned that he had failed to run down the trouble. She held her breath while Clem Peabody told how he was trying to pick up the tons of high explosive in the satellite stage, without colliding with it. She

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prayed silently as the tracking telescopes followed the two small sparks drifting together in space, and breathed her thanks when they met without explosion. Her tired body tensed again, when she heard Clem Peabody announcing that West was ready at last for the real moon trip.

"The rocket is still under remote control, from the great electronic computers here at Cape Canaveral," Peabody said. "The motors should burn for exactly one hundred and twenty-eight seconds, to boost West into his new trajectory."

The gray spark on the screen exploded, then, into a long plume of fire. She leaned to watch it, counting off the seconds. Her count passed one hundred and twenty-eight, and still the long plume burned. Terror had taken her breath and stopped her count, long before something snuffed it out.

She relaxed a little then, half relieved, trying hard to convince herself that she had simply counted too fast. She sat staring at the fading speck on the tiny screen, trying blankly to imagine what Jim was doing and thinking and feeling, out there all alone.

"Here's General Hahn, with his latest official report on the lunar flight." Clem Peabody was with the general on the screen; they both looked almost as worn and anxious as she thought Jim must be. "General, by now I suppose you must be ready to admit that West has met the same space gremlins that got Emilani and Prieto and Slavik?"

"I wouldn't put it quite that way." Hahn's tired face tightened. "But West's motors did fire out of control again—for twenty-one seconds, this time—on his boost from the orbit out toward the moon."

"How do you account for that?"

Hahn frowned and shook his head.

"Couldn't it be the fuel?" Peabody's voice turned harsh with accusation. "The solid propellant? Aren't liquid fuels more powerful and safer?"

"But they don't store so well," Hahn said quietly. "They corrode pipes and valves and pumps. We had to use something stable enough to be stored in the satellite stage, and safe enough to be carried all the way to the moon."

"Your safety record is not impressive." Clem Peabody grinned sarcastically. "Would you mind telling us how you

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attempt to control a fire in five hundred tons of high explosive?"

"We form it into thousands of separate charges," the general told him patiently. "We pack each charge in a separate insulated cell. An electrical ignition system fires each cell, as its thrust is needed. Each one should burn without setting off the next."

"Then how do you explain these accidents?"

"I don't." Hahn looked grim. "I can't."

Clem Peabody nodded, with a certain satisfaction.

"Now what about Captain West?" he demanded. "I think you'll have to admit that he's in a bad spot now."

The general wet his stern lips before he answered. "It's true that he's in an extremely distressing situation. Those twenty-one seconds of uncontrolled thrust burned approximately four tons of fuel, and pushed the rocket dangerously out of its computed trajectory."

"And now what?"

Vicky Hill held her breath, leaning desperately to hear.

"Captain West has a choice to make." The general paused, scowling into the camera, until Peabody prompted him. "He can go into orbit around the moon, instead of attempting to land. That should save fuel enough to get him back alive."

"Assuming the gremlins don't strike again! But what's his other choice?"

"He can carry out his original mission." The general's drawn face furrowed severely. "He can reach his assigned target area, in Copernicus crater. He can radio back a scientific report on the moon. Perhaps he can even tell us what happened to Slavik—and to all of our rockets!"

"Well?" Peabody's sharp hawk-face jutted toward the general. "Which decision will you advise?"

"I've already talked to West. I advised him to take the safe orbit around the moon, to observe what he can from a few hundred miles, and come on home."

"What was his decision?"

"He seemed badly shaken up. He asked for time to think."

Bruised from the mauling power of the runaway rocket, Jim West felt unfit to face any decision. When he had painfully completed his report to General Hahn, he snapped the radio off. It left a deathly stillness. He sucked water out of a plastic tube to wash the dry fear from his throat, and

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floated limply in his tiny pool of captive air.

The lack of weight, which had made him ill at first, was strangely restful now. Somehow, shooting out across the long quarter-million miles to the moon, he went to sleep. The harmless ping of a micrometeor woke him. He felt strong and fit and suddenly hungry. He ate a sandwich and then amused himself with an orange, letting it spin in the air beside him like a tiny yellow planet, before he ate it and gathered the drifting debris of his meal into the disposal bag.

Floating loosely moored in his narrow space between the crash pad and the electronic astrogation gear, he manipulated the telescope to pick up the hazy, cloud-clotted Earth, and then the cold little globe of the waxing moon. They were bright and strange against the bottomless blackness of space, somehow unreal. It was hard to remember how much they mattered.

Drifting there, free from the old rule of gravity, remote from all the human calls of the living world behind him and the inhuman menace of the dead satellite ahead, he methodically monitored his instruments. Once again, painstakingly, he tested every circuit of the electronic pilot —and still he found no cause for its fatal misbehavior.

Resting, he pondered the actions of Dan Slavik—whose reckless hunger for what was not his own seemed oddly unimportant now. Lingeringly, he thought of Vicky Hill. Closing his eyes, trying vainly to see her gay red head, he saw instead what he had to do. Calmly, at last, almost lazily, he snapped on the radio transmitter and called Cape Canaveral.

Somehow, toward the end of each endless night, Vicky Hill got an hour or two of sleep. Each morning, somehow, she got up and drank her coffee and got to school on time. She even escaped from the wearing anxious strain for a little while each day as she taught her science classes, building new study units out of the scientific and mathematical problems of the trip to the moon. As early as she could, each afternoon, she rushed back to her room and the television set. For four long nights she sat watching and waiting for news of Jim, before she heard Clem Peabody's hoarse-voiced announcement:

"Folks, he's falling toward the moon!

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"General Hahn has just reminded him that landing on the moon is in some respects more difficult and more dangerous than landing on the Earth, because he will meet no atmosphere to help cushion his fall. His rocket is now tail-down, so that he can burn the motors to brake his descent. General Hahn warned him that the slightest pilot error, or the smallest mechanical failure, could leave him a dead man on the moon. He replied that he was proceeding with the rescue operation."

Vicky Hill waited through a dark blankness of time that was blurred with Clem Peabody's breathless speculations, and punctuated with meaningless commercials, until she saw General Hahn's tired face beside Peabody's on the screen.

"Folks, he made it!" Peabody was rasping. "Here's General Hahn, to tell you all about it."

"Actually, we don't know much about it." Hahn shook his head, with a tired frown. "Radio transmission at that distance isn't good. West's faint signals were interrupted by interference from the sun. But we know that he is down on the moon—"

"And apt to stay there," Peabody broke in. "Because he's fresh out of fuel."

"That's not quite true," Hahn protested mildly. "We have computed that the fuel he has left would lift him back into orbit around the moon—"

"Where he would be a moon of the moon for the next million years," Peabody said. "But tell us, General—has he found Captain Slavik?"

"Not yet. He searched the target area in Copernicus crater from space, as he came down. He failed to locate Slavik's rocket. But the sun is just rising there, and half the crater is still in the dark. He is going outside in his spacesuit to make a surface search of the dark half of the crater."

"And what are the odds?"

"Not good." Hahn looked bleak. "His spacesuit was designed for brief emergency repair work, not for extended exploration. Besides, he'll soon be in danger from the sun. Slavik's flight was timed to put him on the target area at night, but now—"

He saw Peabody's puzzled frown.

"The moon's day," he explained, "is a whole month long—with two weeks of sunlight. With no air or clouds to moderate it, the rocks get

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scorching hot. I reminded West of that. He replied that he understood the risks and, anyhow, he hadn't much to lose."

Down on the moon, West unstrapped his crash harness and wriggled to the bulging plastic door. Outside, he found a strange sea of liquid blackness, scattered with towering islands of fire. No air softened the sun; every shadow was frozen ink; every sunlit surface blazed. On his right, a curving mountain barrier stood jagged and black against the blacker sky. That would be the ringing wall of Copernicus, and those blazing peaks marked the center of the crater. The sun lay on the crater floor to his left—a sheet of fire that hurt his eyes.

He'd have to hurry.

Hastily, he coupled the portable air tanks to his pressure suit. He fitted and locked the helmet. He sealed the closures, and inflated the suit to test them. He pumped the air out of the sphere, back into the tanks. He unsealed the little door at last, and climbed down the flimsy ladder to the surface of the moon.

Whatever the coming day might bring, the long lunar night had left its cold in the black shadow of the cliffs. He reached gingerly down to pick up his first small sample of the moon, and the savage cold of the dark little rock bit into his fingers, even through his insulated glove. Here, he knew, a thermometer would read two hundred degrees below zero, Fahrenheit.

Yet that cold was no real threat. Thermometer readings had little meaning here. There was no air to have a temperature—nothing to stop heat radiation from the shadows, and no shield against the cruel sun. His insulated suit gave protection from the cold, but heat was a more troublesome problem. His own body was a source of heat—deadly, unless it could be dissipated. In the shadows, his own radiation would cool him fast enough. In the sunlight, he would die.

Aware of that, he tried to be deliberate. A thousand unknown dangers watched him, from the frozen shadows and the incandescent cliffs. No man had learned to cope with them. One tiny mistake could be too many. He had to be deliberate.

Holding to the ladder, he lifted on his toes in the clumsy, weighted boots, and then jumped cautiously up

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and down, trying to get the feel of the lighter gravity. He looked carefully around, trying to memorize the cliffs and craters that could guide him back to the rocket. His dazzled eyes could see no stars to guide him. The sky was a roof of suffocating darkness pressed down upon the moon—until he found the Earth.

It was almost overhead, and hard for him to see, but he stood a long time leaning back in his cramping suit, gazing at it with wonder and regret. It was an immense bright crescent, four times as long as the moon he remembered. The polar ice made a diamond dazzle at one horn, and the storms were small white flakes scattered over the steel-blue curve of the sea. At the edge of the sunlight, he could make out the faint brown bulge of western America. Florida lay in the dark, invisible. Vicky Hill, he thought, would be asleep.

Thinking of her, he released the ladder and turned his back to the rocket. The high Earth would be his compass and his clock. He would have a dozen hours, he estimated, before the sun caught him. With all that vast black moonscape to search, he would need it all.

Stumbling up a stony slope in the pale light of Earth, he slowly learned to cope with the moon's tricky gravity. Even in the bulky suit, with all his load of oxygen tanks, he weighed less than forty pounds. At first he imagined that he should be able to make huge, soaring leaps, but he found that his suit was too stiff and too vulnerable to damage. He fell twice, sprawling in slow motion into the fine, dry lunar dust, before he learned a spread-legged hop that took him safely but slowly across the crater-scarred crater floor.

The bright Earth guided him. Following the black, ragged curve of that Himalayan mountain ring, he jumped the bottomless cracks that moonquakes had made. He inched himself up knife-bladed ridges where molten stone had splashed and frozen. He toiled to the tops of a dozen lower peaks, to search the smaller cups inside the vast one.

All he found was the naked moon.

Yet he didn't turn back. Beyond each empty pit were a hundred more where Slavik might be. He went on until he was slow and awkward with fatigue. He misjudged a jump, and fell into a narrowing black crevasse. Hampered

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with the cramping suit, he came down on his back. The fall hurt.

He lay half dazed for a long time. He realized dully that something was wrong with his breathing. Vaguely, he knew that his oxygen-equipment must have been damaged, but it didn't seem to matter much. His pain from the fall was fading, and he felt too tired to move, and he didn't care—

"Jim!" He thought he heard Vicky Hill, calling urgently through the dark fog in his brain. "Can't you find Dan Slavik?"

Slavik didn't matter, but Vicky did. He sat up to look for her. All he could see was the black rock walls of the crevasse, and the bright crescent Earth in a thin strip of blacker sky. Vicky was a long quarter-million miles away.

But the movement had cleared his head a little. Before the fog came back, he reached to switch the reduction valve to his last oxygen tank. His fingers fumbled and slipped. He set his jaw and fought the tiny valve. He had to turn it—to find Dan Slavik.

Stiffly, stubbornly, it turned. Air hissed softly, and he could breathe again. Life came back. He got to his feet on the rubble and dust in the bottom of the pit. His raw skin burned where the stiff suit had rubbed it, and his bruised bones ached. But he could move again.

He climbed out of the crevasse, out of icy darkness into hot white fire. The rising sun had caught him. Its hot blaze burned his face inside the plastic helmet, and its first flash blinded him.

When sight came back to his stinging eyes, he climbed another dead moon peak. The mountain-shadow had been retreating far too fast, while he searched and while he lay in the crevasse. All around him, the hot sun burned on dark moon rock and dry moon dust. He turned to search that fiery desert, and saw a silver gleam.

A rocket!

It stood shining in the sun on a far moon slope. For a moment he thought he had found Slavik. But then he glanced at the turning Earth, and recovered his sense of direction. Slowly, he began to recognize the peaks and pits that the white tide of fire had changed. The rocket was his own—too far away.

He estimated the life he had left, in that last oxygen tank, and adjusted the valve to the most economical setting that

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he thought he could endure, and started back toward the distant vehicle.

The numbing cold of the crevasse vanished quickly from his tingling hands and feet. He was suddenly too warm. Useless to cool him, his own sweat merely stung his blisters and trickled blindingly into his eyes. A savage thirst parched his throat. He stumbled on as far as he could go, and collapsed into the cooling shelter of a solitary boulder.

He lay there, half-drowned in his own perspiration and gasping for his life, but he knew he couldn't stay. There were still a thousand spots unsearched inside Copernicus, pits that meteors had dug and cracks where the hard moon had split. And he might come out to search again, when the long blazing day was over, if he lived to reach the rocket.

Calmly, he resolved to live. He set the oxygen valve again, stretching the minutes of life it measured. He shaded his face to study the blazing moonspace, planning his path, searching out every cliff and pit that still offered shelter.

Grimly, he went on again. He made the most of every shrinking shadow. He stumbled desperately through each inevitable barrier of fire. He came at last to the blazing rocket, and hauled himself up the hot metal ladder, and fell through the little door.

Feebly, he struggled to seal the door. He opened the main reduction valves. With air around him in the sphere, he fought to get out of his suffocating helmet. The locking lever slipped out of his fingers, and slipped again, until he had no will to try any longer. He was slipping down into a shapeless dark haze as deep as space, when he saw Vicky watching. Her look of sick reproach made him clutch at the lever once more—

The helmet was unlocked, when he was conscious again, and he was breathing. Engineered against the solar heat, the sphere was not intolerably hot. He unsealed the seams of his suit, and relieved himself into a plastic bottle, and lay a long time resting.

At last he was able to try the radio.

"Space pilot—" His hoarse voice stuck, and he had to try again. "Space pilot West, calling Cape Canaveral ground control."

He waited for the answer. Three long seconds for his signal, flashing at the speed of light, to reach the far-off

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Earth and bring its answer back. They passed. They stretched to half a minute. He heard no answer.

Perhaps his signal had been drowned in interference from the sun. Perhaps his power pack had failed. Perhaps some electronic bug had got into the communication gear. He checked the switches, and tried again.

"Space pilot West, on the moon, calling—calling anybody! Get word to Cape Canaveral that I've failed to find Captain Slavik—"

"West!" This reply was strangely loud, and it rapped back with no delay at all. "You've found me now!"

"Slavik!" He knew that brittle voice. "Where are you? I've been looking all over Copernicus—"

"The wrong place, you fool! I'm two hundred miles over your head right now, and moving a mile a second. I'm stuck in an orbit around the moon!"

"Then you never landed, after all?"

That brought no reply.

"Slavik?"

"Sure I landed," the cocky voice came back suddenly. "In the same area where I dropped the marker shot—eight hundred miles from Copernicus. I made my observations and got up into orbit again, but some mechanical bug that I can't locate has wasted so much fuel that I can't get home. I've been waiting for you to pick me up."

"It won't be quite so simple as that," West answered. "You see, that same bug has bitten me. We're both out of gas."

"Can't you get up into orbit?"

"Just a minute." West made a quick computation. "If I toss out my radio, and the fire extinguisher, and the automatic cameras and cosmic ray counters, and everything else I can knock loose—I might barely make it."

"With no fuel left for me?" Slavik blunted the instinctive sharpness of that, almost apologetically. "I mean, I thought we might have fuel enough, between us—"

"Then you have some fuel?"

"About enough to blow my nose," Slavik said. "It would boost me into a return trajectory—with nothing left to slow me down for a safe rendezvous with the re-entry vehicle. Personally, I don't care to be a dead hero. I prefer to sit it out, here in the cool of my orbit."

Vicky Hill was grading a

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tall stack of geometry papers, late the next week, when her landlady came gasping to her room.

"Quick, Miss Vicky! They have found Captain Slavik, and they're on the way home!"

"Huh?" Her red pencil fell. "I—I'd stopped hoping—"

"Listen! Here's General Hahn."

Hahn's lean face looked ten years older since ten days ago, but he was grinning hopefully now as he answered questions for Clem Peabody.

"—just established radio contact with the re-entry vehicle," he was saying. "West and Slavik are both aboard. They're gliding down into the atmosphere now. We expect them here at the cape within a few hours."

"So they both came back in the same rocket?"

"That's the only way they got back at all." Hahn nodded grimly. "Neither could have survived alone. West found Slavik in an orbit around the moon—stranded there. West himself, by that time, was entirely out of fuel. But Slavik had a little fuel left, and West knew how to make the most of it."

"How was that?"

"Here's their problem," the general said. "Falling all the way to Earth from the distance of the moon, a rocket arrives moving seven miles a second. The re-entry vehicle —which is a separate rocketplane waiting in its own orbit to bring the passengers down through the atmosphere—is moving only five miles a second. Our original flight plan had called for the moon ship to return with several tons of fuel left, to slow it down to that velocity. Their problem was to get rid of that surplus two miles a second, without using any fuel."

"A tough problem!"

"Together, they solved it."

"I'd like to know how!"

"West steered the returning rocket into a grazing trajectory—"

"A grazing what?"

"That means he came around the Earth in a path just close enough to graze the upper atmosphere—which required a nice bit of astrogation. The rocket was slowed down, but not incinerated. A second pass slowed it more. After the third grazing pass, it rose back to meet the re-entry vehicle, moving at near enough the same velocity—"

"That was indeed a neat bit of astrogation! And thank you, General Hahn!"

Clem Peabody was smiling

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from the screen, as toothily as if he had been the returning astronaut.

"Keep tuned, people! We're ready to bring you the landing ceremony—and I promise you that our home-coming heroes are going to receive the biggest ovation ever!"

Vicky Hill saw them land. The re-entry plane came in very fast, with a big white parachute blooming out suddenly behind it. A door opened in the nose, and by that time the cameras were near enough so that she could recognize Dan Slavik, grinning smugly as he came up. She had one glimpse of Jim West, just behind him — looking pinched and tired and bent. West was following toward the door, but Slavik slammed it in his face.

"I made it!"

Slavik had somehow shaved, and slicked back his hair. He looked trim and jaunty in his queer space gear. He strutted toward the cameras, shaking his own hand like a winner in the ring.

"First man to the moon—and first man back!"

Vicky Hill made a face at the screen. Not listening to Slavik and Clem Peabody, she sat watching the little door that Slavik had slammed. It opened slowly. Jim's drawn, black-stubbled face looked out at Slavik, with an expression she couldn't understand. Slowly, then, the door closed again.

Late next morning, West was sitting alone in a bar, nursing a glass of beer and watching a television interview between Clem Peabody and the moon hero.

"How does it feel?" Peabody was asking. "How does it feel to be the first man on the moon?"

"It feels just grand to be the first man back." Slavik showed the cameras his teeth. "I had to squeeze through some pretty tight spots, but this is worth it all—"

West nodded to himself, and turned to sip his beer.

"Thank you, Captain Dan Slavik!" Peabody's voice boomed through the bar. "Now, people, here's General Hahn. General, I want to congratulate you personally on the dazzling success of the solid-propellant rockets, which I believe you have always advocated."

The general said nothing, though his lips twitched slightly.

"Now, General, what's the exact significance of these flights to the moon. What do they mean, to all of us?"

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"West and Slavik report that the moon itself is just what we expected—a dead and airless rock. Though they had to abandon all their cameras and scientific instruments, West brought back a small sample of the moon. Analysis shows that it is very ordinary rock."

"Do you mean to say they have risked lives for only that?"

"For the moon!" Hahn protested sharply. "That's a step we had to take, on our way out to the planets and the stars. These men took that step. And they did discover something more important to us, right now, than the moon. They located the mechanical bug that has been wrecking our space rockets."

"What was that?" The camera swung to Slavik. "Captain Slavik, what was that discovery?"

"Uh—" Slavik hesitated, momentarily flustered. He caught his breath. "Meteors," he announced loudly. "In my own opinion, the uncontrolled ignitions were set off by micrometeors. Or possibly by cosmic rays."

The camera swung back to Hahn's hard face.

"If meteors and cosmic rays are so dangerous in space, don't you doubt that men will ever reach the stars?" Peabody's voice had a sting of accusation. "General, doesn't this demolish your own pet theory that the trouble in space was all due to fire?"

"It wasn't fire," Hahn frowned at Slavik. "But it wasn't meteors, either. Captain West found the bug—and it was just a deadly little engineering error. I heard Captain Emilani gasping 'fire,' with his last breath. What he was trying to say was 'fire extinguisher.' "

"What do you mean, sir?" Slavik looked angry and unbelieving. "How could a fire extinguisher set off uncontrolled fuel ignition?"

"Our four moon rockets were all alike," Hahn explained. "The chemical fire extinguisher was clamped where the pilot could reach it, just above the door—and, unfortunately, just above the junction box on the main ignition cable. It did no harm at all, until the rocket took off. But when the acceleration reached nine gravities, its twelve pounds of weight was multiplied by nine. That force tore it out of the clamp, and smashed it into the junction box. The resulting short circuits were the cause of all those premature ignitions."

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"When—when did West discover that?" Slavik stuttered.

"While he was on the moon. An odd circumstance. He had left the rocket to look for you. When he climbed back aboard he noticed that he didn't bump his head on the extinguisher, which should have been just over the door."

"Thank you, General Hahn. Any comment, Captain Slavik?"

Slavik glared into the camera, speechless for a moment.

"I'll give West the credit for that," he muttered at last. "But I don't think he'll care to deny that I beat him to the moon—and then provided the fuel and the rocket that got him home alive. Not that he didn't help. We were both of us trapped out there. We discovered that neither could get back alone. We had to make a bargain."

Slavik squared his shoulders, defiant again.

"Sure, West was on the moon. But he won't say that he was first. He won't deny that I've just done the biggest thing that any man has ever done. Now I'm out to claim my just rewards. One of them is a cute little red head named Vicky Hill—if she happens to be listening!"

Vicky Hill happened to be listening. She was standing in the entrance to the bar, behind Jim West. She glanced at the screen for just an instant, when she heard her name. Contempt stiffened her face, and melted quickly into pity.

Then her searching glance found Jim. She ran across the room to him. He sat staring at a small fragment of dark rock lying on the polished wood beside his half-finished beer, and at first he was not aware of her.

"Jim!" she whispered. "I've been looking everywhere—"

"Vicky?" He looked around at her uncertainly, and gave her a wry, tight-lipped smile. Didn't you hear Slavik asking for you?"

"But I was looking for you."

He slid quickly off the stool, and looked into her eyes.

"What he told me—it was not true?" His first uncertainty faded into pure delight. "Here—here's a little gift!" Impulsively, he handed her the dark rock fragment. "Something Slavik couldn't give you. It's a piece of the moon."

She started to thank him, and stared at him suddenly.

"You mean—you mean he wasn't there? You mean he

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just parked in that orbit, like General Hahn wanted you to do, without ever touching the moon?"

"That's what I think." West nodded slowly. "I think those premature ignitions got his nerve. That marker shot was fired from out in space. He had nothing to prove he ever got to the moon. No samples, no pictures, no records of any observation. I computed his orbit back to the time he says he took off from where the marker missile fell—and he couldn't have been within a thousand miles of the spot. Besides, if he had really landed, he'd have noticed what had happened to his fire extinguisher!"

"Then why are you letting him lie—" Staring at him, she caught a gasping breath. "If you really were the first!"

He looked down at the dark bit of moon rock, and soberly back at her.

"We made a bargain," he told her quietly. "We had to pool our resources, to survive at all. I promised Slavik that I would not dispute his glory, and he helped me get back with my report about that bug for General Hahn. I intend to keep my word." **THE END**

(Continued from page 15

be missing. In the rush and bustle of the final exit, he slipped away—back into the city to find his princess.

The implication of his words there in the globe should have dawned on me, but then, I'm not romantic.

It's rather nice, though, to imagine Calloway living at last, a construction out of his dreams; walking hand in hand with his princess among the fountains, in the gardens, and along the broad avenues of a fairy city all their own; living out an idealistic love found only in story books.

Yes, it is nice to imagine this but it is not true. Calloway walks his dream city all alone because his princess was located a few hours after we went into orbit. She had been put on another ship and the information had not been fed into the check calculators so they could only report her as missing.

But Calloway didn't know this so he is no doubt still searching for his princess—alone in a world-city from which he can never escape.

Quite a man, Calloway, and as I said in the beginning, I'll always remember him.

THE END

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The GREAT IMPLICATION

By STANLEY R. LEE

Illustrated by FINLAY

Pendelton outlined an experiment to test the existence of the God-idea. The question then became obviously: was the experiment Pendelton's idea — or God's?

WAS there something contagious about ignorance? Pendelton wondered aloud that day. Was it inevitable, was it in the air the same as ideas were? He thought that might be the answer because what else could explain the fact that a couple of accomplished physicists were about to fall into a time-honored trap that was already gorged with old, rancid science fiction writers; and not only rancid, but crooked: they accepted pay for writing about a subject they knew nothing of and wasn't that stealing?

Pendelton wasn't actully *trying* to be obnoxious. In fact he liked to make good impressions. He smiled a lot, for instance. And he kept his hands in his pockets so he wouldn't point. He had a peculiar blunt-subtle mind, half of which could split hairs with a Jesuit while the other half couldn't distinguish between a pat on the back and a punch in the jaw.

He rolled right along, smiling and telling them they knew nothing about time travel. *Nothing.* They were babes in the temporal woods! Having a time machine under construction meant that they were in the possesion of what he referred to as mathematical conceptuosity plus above

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average hardware skills. But that didn't necessarily raise them above the level of the science fiction writers when it came to applications. Or the editors. The readers too, for that matter, all blithely playing their cosy little after-the-fact parts in a fantastic world-wide conspiracy of ignorance.

Blackburn and Shaheen, of course, thought he was out of his mind. They'd only agreed to listen to him because he had a letter from the Humanities department head, that and a wild, intense expression on his face which made them think it would be easier to hear him out than throw him out, so they sat at their back-to-back desks glancing at each other occasionally while Pendelton rambled on about the Great Implication and how it was one day going to separate the logical men from the paradoxical boys—and after about twenty minutes of this they were actually listening to him.

So that six months later Blackburn and Shaheen got into a violent argument in the office of the university president, Dr. Freylinghuysen, the two mathematical-physicists completely unable to agree on the color of a girl's dress, a girl they'd not only never seen in their lives before ten that morning, but one who subsequently leveled charges of assault and malicious mischief and attempted rape at the university along with a civil suit for $50,000. Although it had to be said in Pendelton's defense that it wasn't his fault. It was Chaplain Rowan who sprinted across Voltaire Mall and attempted to strip Miss Ethel Chattinger, purely in the interest of science of course but the young lady couldn't quite see it that way, especially since Rowan, the university chaplain, had gotten away with quite a swatch, a large jagged piece of knit woolen dress which he later on triumphantly deposited on Dr. Freylinghuysen's desk, only to find that he hadn't really proved anything at all other than that perhaps Miss Chattinger—otherwise known as the either/or proposition—was not a quick change artist and the Humanities department's 35-year-old prodigy of an air conditioner repairman Leopold Pendelton wasn't a practical joker.

THE first thing," Pendelton said that first day, "is for you to forget about paradox. Paradox *has nothing to do with time travel. Nothing.* It's a monkeying around with words for purposes of profit and it has no place in the office of two experimental physicists. Anyone who answers an honest question with a paradox is a guaranteed shifty character and the chances are he's writing on the sly."

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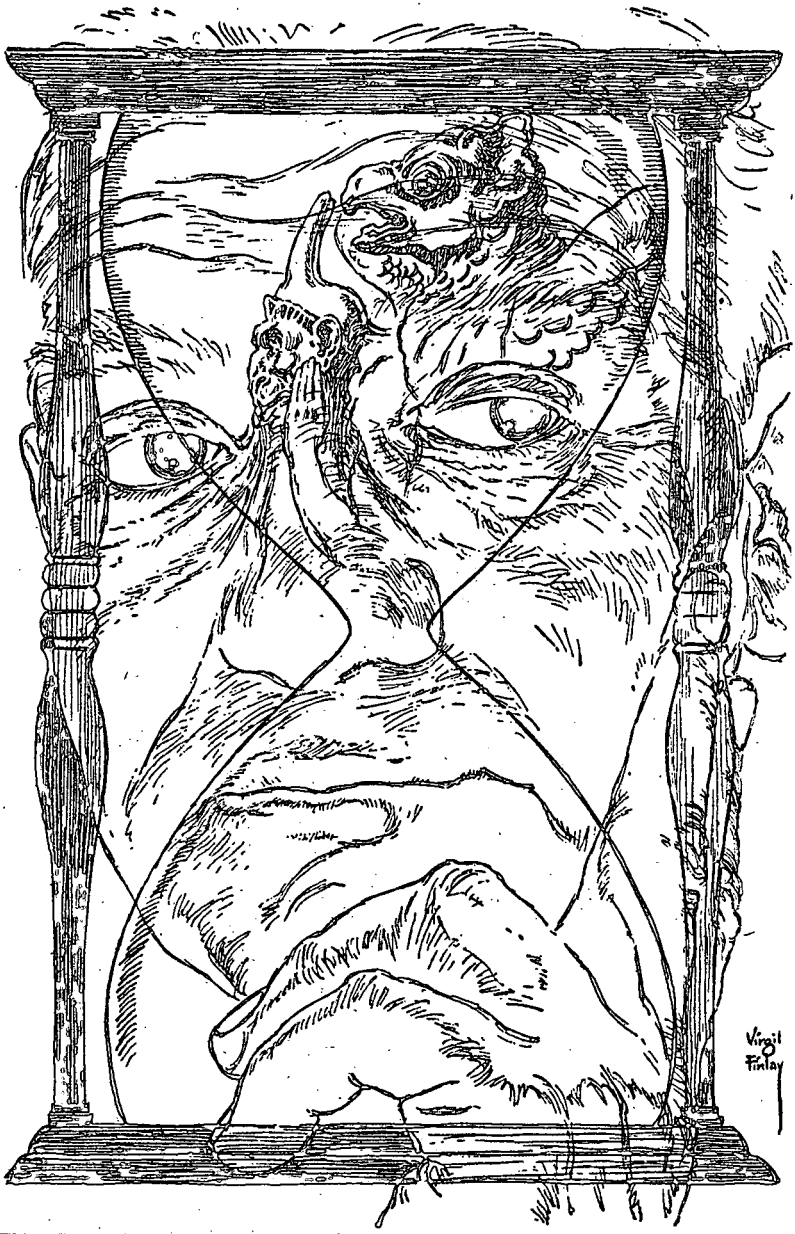

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Preoccupied with not sounding obnoxious, Pendelton missed Blackburn's ostentatiously bored expression, didn't notice the enormous sarcastic attention that Shaheen was giving him. Instead, he remarked: "Feel free to interrupt me with questions. I want to finish off paradox so we can get on to the Great Implication. Will that be a satisfactory procedure?" He hovered over the desks staring at them with big eyes until they slowly nodded their heads up and down.

"Okay. Now. A man travels in time," he said. "He travels in time and fifty million years ago he steps on a moth. *Fantastic.* You wouldn't believe the effect one humble moth could have! The man returns to the present and finds to his guilty astonishment that the Empire State building is now flying the Bolivian flag and gargoyles are sticking out of the 79th floor. This is cute so be careful of it. Boy meets moth, boy loses moth—gargoyles! Except that all those not completely devoid of common sense or debauched by poetic license would know that if the gargoyles were there they were there before he went back in time. His own body is a part of a continuum of which those gargoyles are a prior sequential segment; his entire life is so inextricably wrapped up in those gargoyles that he couldn't possibly be surprised by them, or by any other change he'd caused. As he returned to the present his memory would *alter*. To take any other view of this—to close your eyes and hide behind paradox—is going to get us all in trouble because you've got yourselves a real time traveler now and it's about time you started *thinking* about these things."

("Well why didn't you say so," Blackburn murmured. "Be glad to think about it, give it *every* consideration. We'll be in touch."

"I don't think he heard you," Shaheen said.)

"I won't even bother discussing the suicide-by-killing-old-grandpa myth," Pendelton buzzed on with a great deal of imperturbability, "other than to point out there is no such thing as negative feedback as applied to human beings. I realize that's only a small nuance. But then, take care of the nuances and the breakthroughs will take care of themselves, I always say."

("Oh Lord," Blackburn whispered).

ANOTHER small point. I hate to verbalize the obvious like this but it clears the ground, don't you think? I realize you two might like to traipse back through time and have a friendly chat with, say, Mike Faraday. But that's exactly what you can't do. You know a *little* too much about time machines. He'd pick

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your brains in half an afternoon and beat you back to your own office. As I say that's only a nuance. It's a nuance that eliminates 75% of all time travel science fiction ever written but that's still only a nuance, wait till I get to the Great Implication."

It was a curious word for him to have used—nuance—because six months later in Dr. Freylinghuysen's office Blackburn and Shaheen were to tangle over the nuance of blue versus green, a matter of observation which compared in subtlety to apples versus bananas, Shaheen saying heatedly: "The dress was blue. I'm not color blind and I have twenty-twenty vision. I'll stake my reputation as an experimental physicist on it." Blue! *And this was a lucid well defined statement of his position, a statement rivaled in lucidity only by that of Blackburn who had in all sincerity to insist that the dress* was *blue—but only 10:31 that morning at which time it turned* green; *and if that wasn't bad enough a panting red faced chaplain Rowan had to dash in, carefully locking the door behind him and taking out a huge swatch of dress which he plunked down on the desk shouting: "Green, green, green! Green as the envious devils of hell! Green I say! Green before, green after, green for eternity!"*

"I think, in spite of all," Blackburn remarked, "you've managed to find a way."

"No, but that's interesting," Shaheen said. "Semantically, anyway. *I will did.* Curious."

"A grammatical revolution!" Pendelton was telling them that first day. "I do, I did do, I will do. I have done, I will have done. "I do, I did do, I will do. I have done, I will have done, I should have done, I will did! They're all the same now! So you see, I'm not really wasting your time. The future and the past are now united in a fantastic tenseless embrace. At some time in the future I can in the past save Caesar's life. Thus, there being no more future and past, how can I be wasting your time?"

"More than curious," Pendelton replied. "Practical. The Greeks as you may know thought that no man could be sure he had a happy life until it was over. I on the other hand assert that Caesar's assassination is still in doubt because of the future-past equivalence, that he has not yet successfully crossed the Rubicon, that he is still swimming to the Alexandrian lighthouse, that he is not yet emperor of a Rome that has not yet fallen! Not emperor and yet . . . emperor. Not yet fallen and yet . . . fallen and gone like-what? The wind? No, not even the wind. Nothing is gone, it's all still there moiling

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and seething around in temporal abeyance. Waiting to be resolved! Give me a time machine and I can mold every second of Caesar's existence and, incidentally, by extension, my own. The Greeks therefore were wrong. A man can no longer be sure he was happy even when he's dead!"

BLACKBURN leaned back in his chair and inquired blandly: "Did we get to the great implication yet?"

"If you were listening we did," Pendelton answered. "Elementary theology: if man's fate is determined there must of necessity be a Determiner whom we will call for the sake of convention, God. Determinism without a God, needless to say, is eighteenth century mechanistic twaddle. But suppose now that a man can determine his own fate? Run it through your machine again and again until he gets it down the way he wants it with all degrees of freedom and irrespective of his merit or karma or sinlessness or however our cosmic report cards are supposed to be made out? In that case man becomes his own determiner, the individual conscious mind becomes the deity and that which we have heretofore referred to as God becomes what is known as an outdated archetype."

"Good God," Shaheen said.

"But spelled with a small *g*," Pendelton replied. "That is the Great Implication."

"You mean to say he was proposing to disprove God's existence?" Dr. Freylinghuysen said to them that day. "And with university equipment? Don't you gentlemen realize I have trouble enough with the trustees as it is?" And Chaplain Rowan, who had long since lost the ability to react spontaneously—slipping back and forth almost on schedule between catatonia and St. Vitus dance—said: "Why are you sitting there doing nothing? Why isn't the city being scoured? If that dress isn't proof enough for you, that man is loose somewhere with colored motion pictures of the whole thing. What more do you want?" "A little illumination is all," Freylinghuysen replied. "All I've heard so far is some rather loose discussion about free will and determinism and it wasn't very convincing. Didn't anyone bother to point out to this Leopold Pendelton that you can't prove or disprove anything about your own determined existence since the proof or disproof itself could be determined?" "Yes," Blackburn answered.

BLACKBURN had thought over the Great Implication for about two seconds. "You *have* been wasting our time," he said. "You cannot actively disprove de-

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terminism because the disproof —the experiment itself—could be a part of your own determined existence, arranged by your Determiner. God might, for instance, allow the experiment to be successful merely to test your faith in Him, the same way he allowed you to get the idea in the first place."

An odd smile crossed Pendelton's face. "You really think so?" he asked. "You figure He'd try and cross me up like that? Let's go back and take this a step at a time. Specifically, why can't I play God with Caesar's life?"

"Wouldn't prove anything," Shaheen said. "God could have determined you in the selection of Caesar's name. The change would therefore be His doing, not yours, it would still be old God playing God with Caesar's fortunes."

"But it doesn't have to be Caesar. That was only an example, it could be anyone. Control anyone's destiny, *anyone at all*, and you've proven the point. We could select our man by means of a computer, by random sampling over which only the physical laws of the universe had control, thus eliminating determinacy in the selection."

"But God could alter the laws of chance. After all, they are His laws. A second-rate miracle would force you into selecting His man."

"You mean," Pendelton asked, "that if I selected a name every morning at 10:04½ God would do a miracle at the same time?"

"Ye-es," Shaheen answered.

"But if one morning I changed my mind and waited until a quarter past two to select the name, He'd hold off and wait for me, wouldn't He?"

There was rather a long silence.

"He couldn't very well perform His miracle until I'd picked my name, could He?"

"Hmmmmm," Shaheen said.

"And if I decided to wait until 3:15, *He'd* have to wait too. And if I decided not to pick a name we'd do *without* a miracle that day. The fact is, *I'd* be telling *Him* what to do. Put me in the possession of a random sampling computer and a time machine and I, Leopold Pendelton, would be the bigger God!"

"And the point was well taken," Shaheen had to admit, pouring off some of Dr. Freylinghuysen's ice water. "We could for example use a computer to select at random any one of all the phone books in the United States, then a page in that one book, then a line. That one name would then truly be randomly selected." "Assuming of course," Blackburn said, "that you had first used the computer to randomly select the country whose phone books were to be used." "And also the par-

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ticular year's edition," Freylinghuysen murmured. "It was fairly ingenious," Shaheen said, "especially when you consider that knowing how to do it meant you didn't have to bother. It was enough just to know we could. The only point that needed experimental verification was: could we in fact alter the past? Change something, anything at all and everything else followed, including the death of God." "You mean the death of the concept of God," Blackburn added. "Ah yes," Shaheen answered, glancing guiltily at Chaplain Rowan. "The question was, what were we going to change and how were we going to know it changed?"

CHAPLAIN Rowan had been Shaheen's idea.

It had occurred to him one day as he and Blackburn were crossing the campus and he had observed to his colleague that things were looking bad for God. "It's every man for Himself," Blackburn and replied. "If I'm not mistaken that's one of His own laws. After all, who invented survival of the fittest?"

"Seriously," Shaheen said. "A, we've got a time machine. B, having A, there's no reason that I can see why we can't change the past. And C, if we do, well, they'll be using cathedrals for bowling alleys."

"Maybe now we'll see what kind of a loser *He* makes."

"Look here Blackburn, you needn't parade your atheism so ostentatiously. I'm well aware of it. In fact that's what's bothering me. You're an atheist whereas I . . . well, I never did make up my mind about God. That's not very astute of me, I suppose, but I haven't, I'm betwixt and between, and so I was wondering if it wouldn't be only fair to have a representative of the other side in on this."

For a few seconds there was only the sound of their shoes on the bluestone walk that threaded across the stunted fall grass of the campus.

"Fair? You're using the word *fair* in connection with a scientific experiment?"

"Only because its outcome seems so obvious to us. We have strong preconceptions and because of them we're liable to overlook possibilities. I think we should have someone with us who expects the experiment to work out differently, someone who believes implicitly in His existence."

Blackburn thought about it as they rose in the Physics building elevator. "Well why not," he said, smiling in his peculiar catastrophic fashion. "You and I have an aggregate of 70 years experience in the laboratory, why *not* bring in a clergyman to check

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our techniques, be in keeping with the general tone of this whole thing. Hell, yes!"

LATER that day Brokley L. Rowan listened with a frozen serious face as they declared their intentions to him. A young and conscientious man who spent a great deal of time telling budding undergraduate physicists that God was every bit as ubiquitious as Planck's constant, he listened without one word of complaint, not protesting that they'd put him in a theologically impossible position, a position in which the only two alternatives were to either refuse to look after His interests or else participate in a piece of sacreligion the purpose of which was to demonstrate that the first alternative was not a valid one. And when he met Pendelton a week later in the Physics building. Pendelton told him: "You and I'll get along fine. I want it to be clearly understood that I have *nothing* against the church."

Chaplain Rowan took his glasses off and began cleaning them.

"And there's absolutely nothing for you to worry about. Even if we do disprove Him there'll always be doubters. You *count* on a certain percentage of people who won't believe our evidence. You'll get all the skeptics showing up on Sunday morning as usual."

Shaheen spoke with compensating soberness. "What I thought we'd do," he said, "is hold daily discussions on strategy. That way you can question any assumptions we make, check our logic, object as you see fit."

"What we're trying to be about this thing is fair," Blackburn said.

"Of course," Rowan replied.

"Now the first point I wish to raise," Shaheen said, "is in regard to the gargoyles. They're very important, the gargoyles."

Chaplain Rowan sat down on the window sill.

"If the gargoyles are a product of the past-change," Blackburn put in, anticipating the problem, "how are we going to know it? How are we going to perceive the change? That the question?"

"Aren't you going to ask what gargoyles have to do with this?" Pendelton said to Chaplain Rowan.

"I don't believe I will," Rowan replied, lighting up his pipe.

"The answer," Blackburn said, "is this: the experimental observer, *not* the one who takes the time trip, must be standing in plain view of the building. He must be *expecting* gargoyles to appear. When they do, he will not be tempted to call the phenomenon a miracle. When the gargoyles suddenly pop out—in apparent defiance of various physical laws—he can intelli-

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gently conclude that a specific time experiment has been performed and that a change in the past has in fact occurred, a conclusion that will restore the appearance of the gargoyles to the realm of non-miraculous events."

"Then the change we make must be so specific, must have such easily deducible consequences, that we'll be able to anticipate our equivalent of the gargoyles."

"Sort of like an either/or proposition," Blackburn said. "Find an event that can go only one of only two ways. Switch this event from its already proceeding alternative to the bypassed, the not-used, the temporally-no-longer-existing possibility. The independent observer, watching the one disappear and the other take its place, will then know that the past has changed. It will prove the principle that man can determine his fate and is therefore alone."

Rowan nodded, chewing on his pipe. "I'll wait'll it's over, though," he said.

PRESIDENT Freylinghuysen filled a glass with ice water.

"'You cannot take God's photograph,'" he said. "Surrealism. Sheer surrealism. Was he smiling when he said it?"

"Of course he was smiling," Blackburn replied bleakly. "He's always smiling."

"After making man's first trip through time," Freylinghuysen said, "he stepped out of the physics building to find your either/or proposition yelling its head off and Rowan here standing in the center of Voltaire Mall with half a dress in his hand. So I'm surprised he was smiling. But what was he *talking* about?"

"And why," Shaheen said, "did he push Blackburn into the shrubbery and run off with the camera? I don't understand *that* at all." He turned away. "Oh, I suppose there's plenty I don't understand."

"What about on the trip," Freylinghuysen offered. "Could something have happened—"

"What?" Blackburn replied. "He went back in time exactly one hour. He was to walk to Ethel Chattinger's apartment. ("That fabulous woman," Freylinghuysen murmured.) All he had to do was spill india ink over one of the two new dresses she'd bought. Apparently, the most trying problem of her recent existence was to decide which of the two to wear to her Spanish coach this morning. But he'd be ruining the dress he'd already seen her wearing an hour later on the Mall."

"And that's as subtle a way of getting a girl's dress off as you're likely to find," Freylinghuysen remarked. "Although tearing them off has its points too," he

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added, looking at the ceiling.

"Then what could have gone wrong?" Blackburn asked.

"As far as I can see," Freylinghuysen answered, "the only flaw in this experiment was the scientists themselves. Your observations positively reek with subjectivity. To Rowan, the dress was green, always green. This just *happens* to prove Rowan's original belief, namely that the past can't be altered and therefore He exists. The atheist on the other hand," he glanced at Blackburn, "has seen what looks like a miracle—a material object changing a basic physical quality right before his eyes. Strangely enough this miracle goes to prove that there are no such things as miracles. Blackburn's case is also proven. You saw what you wanted to. Take Shaheen here. He was positive the dress was blue all the time—until he saw Rowan's experimenter's sample—and so now he's back at his old stand: the fence."

THERE was an embarrassed silence, since two scientists had quietly to own up to the crime of subjectivity in the laboratory while the theologian had to somehow dispose of a piece of spurious rationality that might be forgiven but would never be forgotten.

And then the door opened and a smiling face appeared.

"What'd everyone run away for?" Pendelton said.

The president was the first to recover.

"Everyone will please remain seated and calm," he said to the others.

"Calm be damned!" Blackburn answered. "This one has a punch in the nose coming—and where the devil's my camera?"

"Should have told me you were going to take pictures," Pendelton said, gingerly handing it over. "Would have saved us a lot of trouble. And if you're interested in facts it wasn't me that snatched it, it was a law student. I guess he figured it might have some legal use. There's some interesting footage in it starring Chaplain Rowan and a disturbing young creature named Ethel." He tossed a yellow box on the desk. "You see chaplain, I'm not anti-clerical after all."

Rowan's eyes flicked from Pendelton to the box and back again. "That's the film?" he said.

Pendelton nodded.

Shaheen wet his lips. "You develop it?" he said.

"Yep."

"He's playing with us," Freylinghuysen said. "Well, I can't say I blame him. After all, how many times in a man's life does he get a scoop like this? Look," he said, turning to Pendelton, "there seems to have been some disagreement about what hap-

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pened on the Mall this morning. We've got eyewitnesses proving anything you want. You've seen the film, maybe you'd like to tell us." He thumbed the desk top, trying to thing of a decorous way to phrase it. "Oh hell, is He or isn't He?"

Pendelton pursed his lips and thought a moment.

"I'm not in a position to say at this time," he said.

Four of the five men sat frowning because, in conversations with the fifth, time had continually to be allowed for recovering. Then Rowan's eyes brightened and he jumped up.

"I take it you mean by that the dress was green all the time," he said, giving a rhetorical answer.

"But don't start ringing bells over it," Pendelton said, smiling. "I ought to explain that it had to be green. Not because there's a God, but because it had to. Couldn't be anything else. Except always blue, of course. Always blue, always green, but nothing in between. It rhymes." He shrugged his shoulders. "Because when you change the past, why then you change the past and that includes cameras and film which are often also a part of the past."

"Green all the time," Rowan said, looking around at the others. *"Green."*

"Green and immaterial!" Pendelton replied. "Green and irrelevant, green and so what! We took the wrong approach. I didn't realize it until I saw Blackburn getting it down on film. Film is part of the past, so it changes. But our *heads* are also a part of the past. They change too." There was a flash of white teeth against his flushed face as he said: "Depressing, isn't it?"

"WAIT a minute," Shaheen said.

"But it's true. The man watching the gargoyles pop out of the Empire State Building *would not have noticed anything.* Quite suddenly the gargoyles would *always* have been there. The human mind can be toyed with as though it were a piece of film, a coating of silver nitrate crystals on celluloid. It's positively degrading!"

"Wait a minute," Shaheen said, pressing his head between his fists. "Something's wrong. You spilled ink on one of that girl's dresses. The blue one apparently."

"I spilled ink on a co-temporally-earlier edition of the dress the girl was wearing on Voltaire Mall," Pendelton said, "but can you guarantee she wasn't wearing the green dress to begin with? You can't. Now I'll say this slowly. If you change the past then you can have no memory of what it was before you changed it and therefore you can

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never prove that you *have* changed it." He sighed and sat down. "I'd like that to be known as Pendelton's Exclusion Principle."

"It's a shame really," Rowan remarked, "you went to an awful lot of trouble."

"Well," the president said slowly, "I don't know but that it might be better to keep physics and metaphysics apart after this. Like church and state. Metaphysical questions, after all, are those that don't have answers."

A frown passed briefly over Pendelton's countenance. "Wait a minute," he said. "As I recall it, I said something about the wrong approach, I don't remember saying the jig was up. As far as I'm concerned, we've only tried the past so far, we haven't *scratched* the future.

"Take the year 2068 for example," Pendelton said, smiling at them, trying not to sound obnoxious. "If existence is really determined the events of that year are already written down . . . sort of."

He suddenly whirled on Rowan. "There is no question of God changing his mind between now and then since there is nothing that could possibly happen between now and then that would surprise Him, give Him a reason for changing His mind, because if He did He would be violating His own definition which includes absolute knowledge of all events past and future."

ROWAN, immovable, stared back at him.

"But we need *two* time machines," Pendelton resumed. "I know, these things are expensive but if you're really interested you'll ram it past the trustees."

"Stop!" Freylinghuysen said. "No, go ahead. *Damn!*"

"I won't go through this again," Rowan shouted, rising. "All he's going to do is play more tricks with words!"

"Won't hurt to *listen* to him," Freylinghuysen replied.

"Now we send one time machine back to 1868 by means of the other. Then one of us travels to 2068 from 1868 while another goes to that allegedly *same* year 2068 from the present, from 1968. See what I'm getting at?"

Shaheen slowly nodded his head and then closed one eye.

"If there's free will," Blackburn mumbled, "they won't meet."

"Let's look for exclusion principles," Freylinghuysen commented, putting the balls of his fingers together and staring at the ceiling.

Rowan, ignored, watched them for a few seconds and sat down again. After a while he began to wonder how many experiments it would take before Pendelton found the proof he was looking for.

THE END

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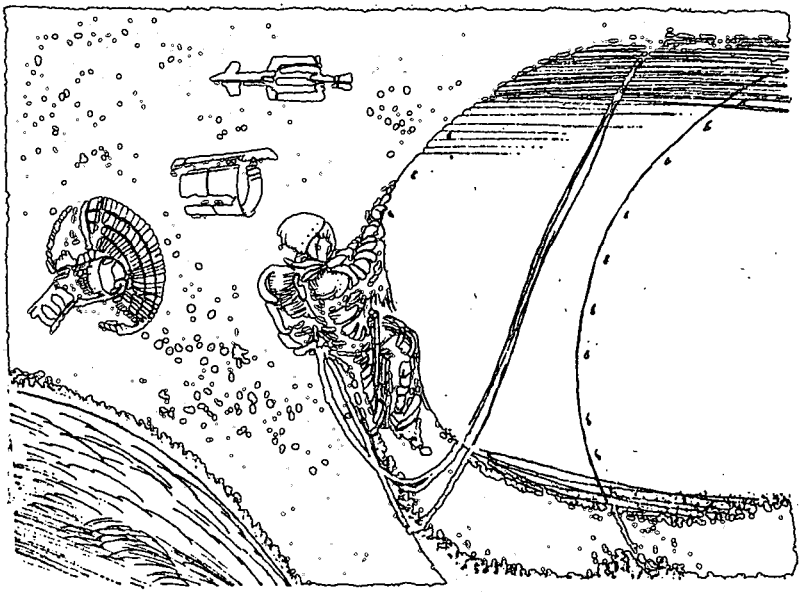

A LONG WAY BACK

By BEN BOVA

ILLUSTRATED by SUMMERS

He held the future of the world in his numbed hands. And from 22,500 miles out, he made the gamble.

TOM woke slowly, his mind groping back through the hypnosis. He found himself looking toward the observation port, staring at stars and blackness.

The first man in space, he thought bitterly.

He unstrapped himself from the acceleration seat, feeling a little wobbly in free fall.

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The hypnotic trance idea worked, all right.

The last thing Tom remembered was Arnoldsson putting him under, here in the rocket's compartment, the old man's sad soft eyes and quiet voice. Now 22,500 miles out, Tom was alone except for what Arnoldsson had planted in his mind for post-hypnotic suggestion to recall. The hypnosis had helped him pull through the blastoff unhurt and even protected him against the vertigo of weightlessness.

Yeah, it's a wonderful world, Tom muttered acidly.

He got up from the seat cautiously, testing his coordination against zero gravity. His magnetic boots held to the deck satisfactorily.

He was lean and wiry, in his early forties, with a sharp angular face and dark, somber eyes. His hair had gone dead white years ago. He was encased up to his neck in a semi-flexible space suit; they had squirmed him into it Earthside because there was no room in the cramped cabin to put it on.

Tom glanced at the tiers of instrument consoles surrounding his seat—no blinking red lights, everything operating normally. *As if I could do anything about it if they went wrong.* Then he leaned toward the observation port, straining for a glimpse of the satellite.

The satellite.

Five sealed packages floating within a three-hundred foot radius of emptiness, circling the Earth like a cluster of moonlets. Five pieces sent up in five robot rockets and placed in the same orbit, to wait for a human intelligence to assemble them into a power-beaming satellite.

Five pieces orbiting Earth for almost eighteen years; waiting for nearly eighteen years while down below men blasted themselves and their cities and their machines into atoms and forgot the satellite endlessly circling, waiting for its creators to breathe life into it.

The hope of the world, Tom thought. *And little Tommy Morris is supposed to make it work . . . and then fly home again.* He pushed himself back into the seat. *Jason picked the wrong man.*

"Tom! Tom, can you hear me?"

He turned away from the port and flicked a switch on the radio console.

"Hello Ruth. I can hear you."

A hubbub of excitement

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crackled through the radio receiver, then the girl's voice: "Are you all right? Is everything . . ."

"Everything's fine," Tom said flatly. He could picture the scene back at the station —dozens of people clustered around the jury-rigged radio, Ruth working the controls, trying hard to stay calm when it was impossible to, brushing back that permanently displaced wisp of brown hair that stubbornly fell over her forehead.

"Jason will be here in a minute," she said. "He's in the tracking shack, helping to calculate your orbit."

Of course Jason will be here, Tom thought. Aloud he said, "He needn't bother. I can see the satellite packages; they're only a couple of hundred yards from the ship."

Even through the radio he could sense the stir that went through them.

Don't get your hopes up, he warned silently. *Remember, I'm no engineer. Engineers are too valuable to risk on this job. I'm just a tool, a mindless screwdriver sent here to assemble this glorified tinkertoy. I'm the muscle, Arnoldsson is the nerve link, and Jason is the brain.*

Abruptly, Jason's voice surged through the radio speaker, "We did it, Tom! We did it!"

No, Tom thought, *you did it, Jason. This is all your show.*

"You should be able to see the satellite components," Jason said. His voice was excited yet controlled, and his comment had a ring of command in it.

"I've already looked," Tom answered. "I can see them."

"Are they damaged?"

"Not as fas as I can see. Of course, from this distance . . ."

"Yes, of course," Jason said. "You'd better get right outside and start working on them. You've only got forty-eight hours worth of oxygen."

"Don't worry about me," Tom said into the radio. "Just remember your end of the bargain."

"You'd better forget that until you get back here."

"I'm not forgetting anything."

"I mean you must concentrate on what you're doing up there if you expect to get back alive."

"When I get back we're going to explore the bombed-out cities. You promised that. It's the only reason I agreed to this."

Jason's voice stiffened. "My

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memory is quite as good as yours. We'll discuss the expedition after you return. Now you're using up valuable time . . . and oxygen."

"Okay. I'm going outside."

Ruth's voice came back on: "Tom, remember to keep the ship's radio open, or else your suit radio won't be able to reach us. And we're all here . . . Dr. Arnoldsson, Jason, the engineers . . . if anything comes up, we'll be right here to help you."

Tom grinned mirthlessly. *Right here: 22,500 miles away.*

"Tom?"

"Yes Ruth."

"Good luck," she said. "From all of us."

Even Jason? he wanted to ask, but instead said merely, "Thanks."

He fitted the cumbersome helmet over his head and sealed it to the joints on his suit. A touch of a button on the control panel pumped the compartment's air into storage cylinders. Then Tom stood up and unlocked the hatch directly over his seat.

Reaching for the handholds just outside the hatch, he pulled himself through, and after a weightless comic ballet managed to plant his magnetized boots on the skin of the ship. Then, standing, he looked out at the universe.

Oddly, he felt none of the overpowering emotion he had once expected of this moment. Grandeur, terror, awe—no, he was strangely calm. The stars were only points of light on a dead-black background; the Earth was a fat crescent patched with colors; the sun, through his heavily-tinted visor, was like the pictures he had seen at planetarium shows, years ago.

As he secured a lifeline to the grip beside the hatch, Tom thought that he felt as though someone had stuck a reverse hypodermic into him and drained away all his emotions.

Only then did he realize what had happened. Jason, the engineer, the leader, the man who thought of everything, had made Arnoldsson condition his mind for this. No gaping at the universe for the first man in space, too much of a chance to take! There's a job to be done and no time for human frailty or sentiment.

Not even that, Tom said to himself. *He wouldn't even allow me one moment of human emotion.*

But as he pushed away from the ship and floated ghostlike toward the largest

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of the satellite packages, Tom twisted around for another look at Earth.

I wonder if she looked that way before the war?

Slowly, painfully, men had attempted to rebuild their civilization after the war had exhausted itself. But of all the things destroyed by the bombs and plagues, the most agonizing loss was man's sources of energy.

The coal mines, the oil refineries, the electricity-generating plants, the nuclear power piles . . . all shattered into radioactive rubble. There could be no return to any kind of organized society while men had to scavenge for wood to warm themselves and to run their primitive machines.

Then someone had remembered the satellite.

It had been designed, before the war, to collect solar energy and beam it to a receiving station on Earth. The satellite packages had been fired into a 24-hour orbit, circling the Earth over a fixed point on the Equator. The receiving station, built on the southeastern coast of the United States, saw the five units as a single second-magnitude star, low on the horizon all year, every year.

Of course the packages wavered slightly in their orbits, but not enough in eighteen years to spread very far apart. A man could still put them together into a power-beaming satellite.

If he could get there.

And if they were not damaged.

And if he knew how to put them together.

Through months that stretched into years, over miles of radioactive wilderness, on horseback, on carts, on foot, those who knew about the satellite spread the word, carefully, secretly, to what was left of North America's scientists and engineers. Gradually they trickled into the once-abandoned settlement.

They elected a leader: Jason, the engineer, one of the few men who knew anything about rockets to survive the war and the lunatic bands that hunted down anyone suspected of being connected with pre-war science.

Jason's first act was to post guards around the settlement. Then he organized the work of rebuilding the power-receiving station and a man-carrying rocket.

They pieced together parts of a rocket and equipment that had been damaged by the

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war. What they did not know, they learned. What they did not have, they built or cannibalized from ruined equipment.

Jason sent armed foragers out for gasoline, charcoal and wood. They built a ramshackle electricity generator. They planted crops and hunted the small game in the local underbrush. A major celebration occurred whenever a forager came back towing a stray cow or horse or goat.

They erected fences around the settlement, because more than once they had to fight off the small armies of looters and anti-scientists that still roved the countryside.

But finally they completed the rocket . . . after exhausting almost every scrap of material and every ounce of willpower.

Then they picked a pilot: Thomas H. Morris, age 41, former historian and teacher. He had arrived a year before the completion of the rocket after walking 1,300 miles to find the settlement; his purpose was to organize some of the scientists and explore the bombed-out cities to see what could be salvaged out of man's shattered heritage.

But Tom was ideal for the satellite job: the right size—five-six and one-hundred thirty pounds; no dependents—wife and two sons dead of radiation sickness. True, he had no technical background whatsoever; but with Arnoldsson's hypnotic conditioning he could be taught all that it was necessary for him to know . . . maybe.

Best of all, though, he was thoroughly expendable.

So Jason made a deal with him. There could be no expeditions into the cities until the satellite was finished, because every man was needed at the settlement. And the satellite could not be finished until someone volunteered to go up in the rocket and assemble it.

It was like holding a candy bar in front of a small child. He accepted Jason's terms.

The Earth turned, and with it the tiny spark of life alone in the emptiness around the satellite. Tom worked unmindful of time, his eyes and hands following Jason's engineering commands through Arnoldsson's post - hypnotic directions, with occasional radio conferences.

But his conscious mind sought refuge from the strangeness of space, and he talked almost constantly into his radio while he worked, talked about anything, every-

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thing, to the girl on the other end of the invisible link.

". . . and once the settlement is getting the power beamed from this contraption, we're going to explore the cities. Guess we won't be able to get very far inland, but we can still tackle Washington, Philadelphia and New York . . . plenty for us there."

Ruth asked, "What were they like before the war?"

"The cities? That's right, you're too young to remember. They were big, Ruth, with buildings so tall people called them skyscrapers." He pulled a wrench from its magnetic holder in the satellite's self-contained tool bin. "And filled with life. Millions of people lived in each one . . . all the people we have at the settlement could have lived on one floor of a good-sized hotel . . ."

"What's a hotel?"

Tom grinned as he tugged at a pipe fitting. "You'll find out when you come with us . . . you'll see things you could never imagine."

"I don't know if I'll come with you."

He looked up from his work and stared Earthward. "Why?"

"Well . . . Jason . . . he says there isn't much left to see. And it's all radioactive and diseased."

"Nonsense."

"But Jason says . . ."

Tom snorted. "Jason hasn't been out of the settlement for six years. I walked from Chicago to the settlement a year ago. I went through a dozen cities . . . they're wrecked, and the radioactivity count was higher than it is here at the settlement, but it's not high enough to be dangerous."

"And you want to explore those cities; why?"

"Let's just say I'm a historian," Tom answered while his hands manipulated complex wiring unconsciously, as though they belonged not to him but to some unseen puppeteer.

"I don't understand," Ruth said.

"Look—those cities hold mankind's memory. I want to gather up the fragments of civilization before the last book is used for kindling and the last machine turns to rust. We need the knowledge in the cities if we expect to rebuild a civilization . . ."

"But Jason and Dr. Arnoldsson and the engineers—they know all about . . ."

"Jason and the engineers," Tom snapped. "They had to stretch themselves to the

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breaking point to put together this rocket from parts that were already manufactured, waiting for them. Do you think they'd know how to build a city? Dr. Arnoldsson is a psychiatrist; his efforts at surgery are pathetic. Have you ever seen him try to set a broken leg? And what about agriculture? What about tool-making or mining or digging wells, even . . . what about education? How many kids your own age can read or write?"

"But the satellite . . ."

"The satellite won't be of any use to people who can't work the machines. The satellite is no substitute for knowledge. Unless something is done, your grandchildren will be worshipping the machines, but they won't know how to repair them."

"No . . ."

"Yes, Ruth," he insisted.

"No," she whispered, her voice barely audible over the static-streaked hum in his earphones. "You're wrong, Tom. You're wrong. The satellite will send us the power we need. Then we'll build our machines and teach our children."

How can you teach what you don't know? Tom wanted to ask, but didn't. He worked without talking, hauling the weightless tons of satellite packages into position, electronically welding them together, splicing wiring systems too intricate for his conscious mind to understand.

Twice he pulled himself back along the lifeline into the ship for capsule meals and stimulants.

Finally he found himself staring at his gloved hands moving industriously within the bowels of one of the satellite packages. He stopped, suddenly aware that it was piercingly cold and totally dark except for the lamp on his helmet.

He pushed away from the unfinished satellite. Two of the packages were assembled now. The big parabolic mirror and two other uncrated units hung nearby, waiting impassively.

Tom groped his way back into the ship. After taking off his helmet and swallowing a couple of energy pills he said to the ship's radio:

"What time is it?" The abrupt sound of his own voice half-startled him.

"Nearly four a. m." It was Jason.

"Earth's blotted out the sun," Tom muttered. "Getting damned cold in here."

"You're in the ship?"

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"Yes. It got too cold for the suit."

"Turn up the ship's heaters," Jason said. "What's the temperature in there?"

Tom glanced at the thermometer as he twisted the thermostat dial as far as it would go. "Forty-nine," he answered.

He could sense Jason nod. "The heaters are on minimum power automatically unless you turn them up. It'll warm you up in a few seconds. How's the satellite?"

Tom told him what remained to be done.

"You're not even half through yet." Jason's voice grew fainter and Tom knew that he was doing some mental arithmetic as he thought out loud. "You've been up about twenty hours; at the rate you're going you'll need another twenty-four to finish the job. That will bring you very close to your oxygen limit."

Tom sat impassively and stared at the gray metal and colored knobs of the radio.

"Is everything going all right?" Jason asked.

"How should I know? Ask Arnoldsson."

"He's asleep. They all are."

"Except you."

"That's right," Jason said, "except me."

"How long did Ruth stay on the radio?"

"About sixteen hours. I ordered her to sleep a few hours ago."

"You're pretty good at giving orders," Tom said.

"Someone has to."

"Yeah." Tom ran a hand across his mouth. *Boy, could I use a cigarette. Funny, I haven't even thought about them in years.*

"Look," he said to the radio, "we might as well settle something right now. How many men are you going to let me have?"

"Don't you think you'd better save that for now and get back to work?"

"It's too damned cold out there. My fingers are still numb. You could have done a better job on insulating this suit."

"There are a lot of things we could have done," Jason said, "if we had the material."

"How about the expedition? How many men can I have?"

"As many as you can get," the radio voice answered. "I promised I won't stand in your way once the satellite is finished and operating."

"Won't stand in my way," Tom repeated. "That means you won't encourage anyone, either."

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Jason's voice rose a trifle. "I can't encourage my people to go out and risk their lives just because you want to poke around some radioactive slag heaps!"

"You promised that if I put the satellite together and got back alive, I could investigate the cities. That was our deal."

"That's—right. You can. And anyone foolish enough to accompany you can follow along."

"Jason, you know I need at least twenty-five armed men to venture out of the settlement . . ."

"Then you admit it's dangerous!" the radio voice crackled.

"Sure, if we meet a robber band. You've sent out enough foraging groups to know that. And we'll be travelling hundreds of miles. But it's not dangerous for the reasons you've been circulating . . . radioactivity and disease germs and that nonsense. There's no danger that one of your own foraging groups couldn't handle. I came through the cities last year alone, and I made it."

Tom waited for a reply from the radio, but only the hissing and crackling of electrical disturbances answered him.

"Jason, those cities hold what's left of a world-wide civilization. We can't begin to rebuild unless we reopen that knowledge. We need it, we need it desperately!"

"It's either destroyed or radioactive, and to think anything else is self-delusion. Besides, we have enough intelligence right here at the settlement to build a new civilization, better than the old one, once the satellite is ready."

"But you don't!" Tom shouted. "You poor damned fool, you don't even realize how much you don't know."

"This is a waste of time," Jason snapped. "Get outside and finish your work."

"I'm still cold, dammit," Tom said. He glanced at the thermometer on the control console. "Jason! *It's below freezing in here!*"

"What?"

"The heating unit isn't working at all!"

"Impossible. You must have turned it off instead of on."

"I can read, dammit! It's turned as high as it'll go . . ."

"What's the internal thermometer reading?"

Tom looked. "Barely thirty . . . and it's still going down."

"Hold on, I'll wake Arnoldsson and the electrical engineers."

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Silence. Tom stared at the inanimate radio which gave off only the whines and scratches of lightning and sun and stars, all far distant from him. For all his senses could tell him, he was the last living thing in the universe.

Sure, call a conference, Tom thought. *How much more work is there to be done? About twenty-four hours, he said. Another day. And another full night. Another night, this time with no heat. And maybe no oxygen, either. The heaters must have been working tonight until I pushed them up to full power. Something must have blown out. Maybe it's just a broken wire. I could fix that if they tell me how. But if it's not . . . no heat tomorrow night, no heat at all.*

Then Arnoldsson's voice floated up through the radio speaker: soft, friendly, calm, soothing . . .

The next thing Tom knew he was putting on his helmet. Sunlight was lancing through the tinted observation port and the ship was noticeably warmer.

"What happened?" he mumbled through the dissolving haze of hypnosis.

"It's all right, Tom." Ruth's voice. "Dr. Arnoldsson put you under and had you check the ship's wiring. Now he and Jason and the engineers are figuring out what to do. They said it's nothing to worry about . . . they'll have everything figured out in a couple of hours."

"And I'm to work on the satellite until they're ready?"

"Yes."

"Don't call us, we'll call you."

"What?"

"Nothing."

"It's all right, Tom. Don't worry."

"Sure Ruth, I'm not worried." *That makes us both liars.*

He worked mechanically, handling the unfamiliar machinery with the engineers' knowledge through Arnoldsson's hypnotic communication.

Just like the pictures they used to show of nuclear engineers handling radioactive materials with remotely-controlled mechanical hands from behind a concrete wall. I'm only a pair of hands, a couple of opposed thumbs, a fortunate mutation of a self-conscious simian . . . but, God, why don't they call? She said it wasn't anything big. Just the wiring, probably. Then why don't they call?

He tried to work without

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thinking about anything, but he couldn't force his mind into stillness.

Even if I can fix the heaters, even if I don't freeze to death, I might run out of oxygen. And how am I going to land the ship? The takeoff was automatic, but even Jason and Arnoldsson can't make a pilot out of me . . .

"Tom?" Jason's voice.

"Yes!" He jerked to attention and floated free of the satellite.

"We've . . . eh, checked what you told us about the ship's electrical system while Arnoldsson had you under the hypnotic trance . . ."

"And?"

"Well . . . it, eh, looks as though one of the batteries gave out. The batteries feed all the ship's lights, heat, and electrical power . . . with one of them out, you don't have enough power to run the heaters."

"There's no way to fix it?"

"Not unless you cut out something else. And you need everything else . . . the radio, the controls, the oxygen pumps . . ."

"What about the lights? I don't need them, I've got the lamp on my suit helmet."

"They don't take as much power as the heaters do. It wouldn't help at all."

Tom twisted weightlessly and stared back at Earth. "Well just what the hell am I supposed to *do?*"

"Don't get excited," Jason's voice grated in his earphones. "We've calculated it all out. According to our figures, your suit will store enough heat during the day to last the night . . ."

"I nearly froze to death last night and the ship was heated most of the time!"

"It will get cold," Jason's voice answered calmly, "but you should be able to make it. Your own body warmth will be stored by the suit's insulation, and that will help somewhat. But you must not open the suit all night, not even to take off your helmet."

"And the oxygen?"

"You can take all the replacement cylinders from the ship and keep them at the satellite. The time you save by not having to go back and forth to the ship for fresh oxygen will give you about an hour's extra margin. You should be able to make it."

Tom nodded. "And of course I'm expected to work on the satellite right through the night."

"It will help you keep your mind off the cold. If we see that you're not going to make it—either because of the cold

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or the oxygen—we'll warn you and you can return to the settlement."

"Suppose I have enough oxygen to just finish the satellite, but if I do, I won't have enough to fly home. Will you warn me then?"

"Don't be dramatic."

"Go to hell."

"Dr. Arnoldsson said he could put you under," Jason continued unemotionally, "but he thinks you might freeze once your conscious mind went asleep."

"You've figured out all the details," Tom muttered. "All I have to do is put your damned satellite together without freezing to death and then fly 22,500 miles back home before my air runs out. Simple."

He glanced at the sun, still glaring bright even through his tinted visor. It was nearly on the edge of the Earth-disk.

"All right," Tom said, "I'm going into the ship now for some pills; it's nearly sunset."

Cold. Dark and so cold that numbers lost their meaning. Paralyzing cold, seeping in through the suit while you worked, crawling up your limbs until you could hardly move. The whole universe hung up in the sky and looked down on the small cold figure of a man struggling blindly with machinery he could not understand.

Dark. Dark and cold.

Ruth stayed on the radio as long as Jason would allow her, talking to Tom, keeping the link with life and warmth. But finally Jason took over, and the radio went silent.

So don't talk, Tom growled silently, *I can keep warm just by hating you, Jason.*

He worked through the frigid night, struggling antlike with huge pieces of equipment. Slowly he assembled the big parabolic mirror, the sighting mechanism and the atomic convertor. With dreamy motions he started connecting the intricate wiring systems.

And all the while he raged at himself: *Why? Why did it have to be this way? Why me? Why did I agree to do this? I knew I'd never live through it; why did I do it?*

He retraced the days of his life: the preparations for the flight, the arguments with Jason over exploring the cities, his trek from Chicago to the settlement, the aimless years after the radiation death of his two boys and Marjorie, his wife.

Marjorie and the boys, lying sick month after month, dying one after the other in

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a cancerous agony while he stood by helplessly in the ruins of what had been their home.

No! His mind warned him. *Don't think of that. Not that. Think of Jason, Jason who prevents you from doing the one thing you want, who is taking your life from you; Jason, the peerless leader; Jason, who's afraid of the cities. Why? Why is he afraid of the cities? That's the hub of everything down there. Why does Jason fear the cities?*

It wasn't until he finished connecting the satellite's last unit—the sighting mechanism—that Tom realized the answer.

One answer. And everything fell into place.

Everything . . . except what Tom Morris was going to do about it.

Tom squinted through the twin telescopes of the sighting mechanism again, then pushed away and floated free, staring at the Earth bathed in pale moonlight.

What do I do now? For an instant he was close to panic, but he forced it down. *Think,* he said to himself. *You're supposed to be a Homo Sapiens . . . use that brain. Think!*

The long night ended. The sun swung around from behind the bulk of Earth. Tom looked at it as he felt its warmth penetrating the insulated suit, and he knew it was the last time he would see the sun. He felt no more anger—even his hatred of Jason was drained out of him now. In its place was a sense of—finality.

He spoke into his helmet mike. "Jason."

"He is in conference with the astronomers." Dr. Arnoldsson's voice.

"Get him for me, please."

A few minutes of silence, broken only by the star-whisperings in his earphones.

Jason's voice was carefully modulated. "Tom, you made it."

"I made it. And the satellite's finished."

"It's finished? Good. Now, what we have to do . . ."

"Wait," Tom interrupted. "It's finished but it's useless."

"What?"

Tom twisted around to look at the completed satellite, its oddly-angled framework and bulbous machinery glinting fiercely in the newly-risen sun. "After I finished it I looked through the sighting mechanism to make certain the satellite's transmitters were correctly aimed at the

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settlement. Nobody told me to, but nobody said not to, either, so I looked. It's a simple mechanism . . . The transmitters are pointed smack in the middle of Hudson's Bay."

"You're sure?"

"Certainly."

"You can rotate the antennas . . ."

"I know. I tried it. I can turn them as far south as the Great Lakes."

A long pause.

"I was afraid of this," Jason's voice said evenly.

I'll bet you were, Tom answered to himself.

"You must have moved the satellite out of position while assembling its components."

"So my work here comes to nothing because the satellite's power beam can't reach the settlement's receivers."

"Not . . . not unless you use the ship . . . to tow the satellite into the proper orbital position," Jason stammered.

You actually went through with it, Tom thought. Aloud, he said, "But if I use the ship's engine to tow the satellite, I won't have enough fuel left to get back to Earth, will I?" *Not to mention oxygen.*

A longer pause. "No."

"I have two questions, Jason. I think I know the answers to them both but I'll ask you anyway. One. You knew this would happen, didn't you?"

"What do you mean?"

"You've calculated this insane business down to the last drop of sweat," Tom growled. "You knew that I'd knock the satellite out of position while I was working on it, and the only way to get it back in the right orbit would be for me to tow it back and strand myself up here. This is a suicide mission, isn't it, Jason?"

"That's not true . . ."

"Don't bother defending yourself. I don't hate you anymore, Jason, I understand you, dammit. You made our deal as much to get rid of me as to get your precious satellite put together."

"No one can force you to tow the satellite . . ."

"Sure, I can leave it where it is and come back home. If I can fly this ship, which I doubt. And what would I come back to? I left a world without power. I'd return to a world without hope. And some dark night one of your disappointed young goons would catch up with me . . . and no one would blame him, would they?"

Jason's voice was brittle. "You'll tow it into position?"

"After you answer my sec-

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ond question," Tom countered. "Why are you afraid of the cities?"

"Afraid? I'm not afraid."

"Yes you are. Oh, you could use the hope of exploring the cities to lure me up here on this suicide-job, but you knew I'd never be back to claim my half of the bargain. You're afraid of the cities, and I think I know why. You're afraid of the unknown quantity they represent, distrustful of your own leadership when new problems arise . . ."

"We've worked for more than ten years to make this settlement what it is," Jason fumed. "We fought and died to keep those marauding lunatics from wrecking us. We are mankind's last hope! We can't afford to let others in . . . they're not scientists, they wouldn't understand, they'd ruin everything."

"Mankind's last hope, terrified of men." Tom was suddenly tired, weary of the whole struggle. But there was something he had to tell them.

"Listen Jason," he said. "The walls you've built around the settlement weren't meant to keep you from going outside. You're not a self-sufficient little community . . . you're cut off from mankind's memory, from his dreams, from his ambitions. You can't even start to rebuild a civilization—and if you do try, don't you think the people outside will learn about it? Don't you think they've got a right to share in whatever progress the settlement makes? And if you don't let them, don't you realize that they'll destroy the settlement?"

Silence.

"I'm a historian," Tom continued, "and I know that a civilization can't exist in a vacuum. If outsiders don't conquer it, it'll rot from within. It's happened to Babylonia, Greece, Rome, China, even. Over and again. The Soviets built an Iron Curtain around themselves, and wiped themselves out because of it.

"Don't you see, Jason? There are only two types of animals on this planet: the gamblers and the extinct. It won't be easy to live with the outsiders, there'll be problems of every type. But the alternative is decay and destruction. *You've got to take the chance, if you don't you're dead.*"

A long silence. Finally Jason said, "You've only got about a half-hour's worth of oxygen left. Will you tow the satellite into the proper position?"

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Tom stared at the planet unseeingly. "Yes," he mumbled.

"I'll have to check some calculations with the astronomers," Jason's voice buzzed flatly in his earphones.

A background murmer, scarcely audible over the crackling static.

Then Ruth's voice broke through, "Tom, Tom, you can't do this! You won't be able to get back!"

"I know," he said, as he started pulling his way along the lifeline back to the ship.

"*No!* Come back, Tom, please. Come back. Forget the satellite. Come back and explore the cities. I'll go with you. Please. Don't die, Tom, please don't die . . ."

"Ruth, Ruth, you're too young to cry over me. I'll be all right, don't worry."

"No, it isn't fair."

"It never is," Tom said. "Listen, Ruth. I've been dead a long time. Since the bombs fell, I guess. My world died then and I died with it. When I came to the settlement, when I agreed to make this flight, I think we all knew I'd never return, even if we wouldn't admit it to ourselves. But I'm just one man, Ruth, one small part of the story. The story goes on, with or without me. There's tomorrow . . . your tomorrow. I've got no place in it, but it belongs to you. So don't waste your time crying over a man who died eighteen years ago."

He snapped off his suit radio and went the rest of the way to the ship in silence. After locking the hatch and pumping air back into the cabin, he took off his helmet.

Good clean canned air, Tom said to himself. *Too bad it won't last longer.*

He sat down and flicked a switch on the radio console. "All right, do you have those calculations ready?"

"In a few moments . . ." Arnoldsson's voice.

Ten minutes later Tom reemerged from the ship and made his ghost-like way back to the satellite's sighting mechanism. He checked the artificial moon's position, then went back to the ship.

"On course," he said to the radio. "The transmitters are pointing a little northwest of Philadelphia."

"Good," Arnoldsson's voice answered. "Now, your next blast should be three seconds' duration in the same direction . . ."

"No," Tom said, "I've gone as far as I'm going to."

"What?"

(Continued on page 130

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THE JUPITER WEAPON

He was a living weapon of destruction — immeasureably powerful, utterly invulnerable. There was only one question: Was he human?

By CHARLES L. FONTENAY

TRELLA feared she was in for trouble even before Motwick's head dropped forward on his arms in a drunken stupor. The two evil-looking men at the table nearby had been watching her surreptitiously, and now they shifted restlessly in their chairs.

Trella had not wanted to come to the Golden Satellite. It was a squalid saloon in the rougher section of Jupiter's View, the terrestrial dome-colony on Ganymede. Motwick, already, drunk, had insisted.

A woman could not possibly make her way through these streets alone to the better section of town, especially one clad in a silvery evening dress. Her only hope was that this place had a telephone. Perhaps she could call one of Motwick's friends; she had no one on Ganymede she could call a real friend herself.

Tentatively, she pushed her chair back from the table and arose. She had to brush close by the other table to get to the bar. As she did, the dark, slick-haired man reached out and grabbed her around the waist with a steely arm.

Trella swung with her whole body, and slapped him so hard he nearly fell from his chair. As she walked swiftly toward the bar, he leaped up to follow her.

There were only two other people in the Golden Satellite: the fat, mustached bartender and a short, square-built man at the bar. The latter swung around at the pistol-like report of her slap, and she saw that, though no more than four and a half feet tall, he was as heavily muscled as a lion.

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His face was clean and open, with close-cropped blond hair and honest blue eyes. She ran to him.

"Help me!" she cried. "Please help me!"

He began to back away from her.

"I can't," he muttered in a deep voice. "I can't help you. I can't do anything."

The dark man was at her heels. In desperation, she dodged around the short man and took refuge behind him. Her protector was obviously unwilling, but the dark man, faced with his massiveness, took no chances. He stopped and shouted:

"Kregg!"

The other man at the table arose, ponderously, and lumbered toward them. He was immense, at least six and a half feet tall, with a brutal, vacant face.

Evading her attempts to stay behind him, the squat man began to move down the bar away from the approaching Kregg. The dark man moved in on Trella again as Kregg overtook his quarry and swung a huge fist like a sledgehammer.

Exactly what happened, Trella wasn't sure. She had the impression that Kregg's fist connected squarely with the short man's chin *before* he dodged to one side in a movement so fast it was a blur. But that couldn't have been, because the short man wasn't moved by that blow that would have felled a steer, and Kregg roared in pain, grabbing his injured fist.

"The bar!" yelled Kregg. "I hit the damn bar!"

At this juncture, the bartender took a hand. Leaning far over the bar, he swung a full bottle in a complete arc. It smashed on Kregg's head, splashing the floor with liquor, and Kregg sank stunned to his knees. The dark man, who had grabbed Trella's arm, released her and ran for the door.

Moving agilely around the end of the bar, the bartender stood over Kregg, holding the jagged-edged bottleneck in his hand menacingly.

"Get out!" rumbled the bartender. "I'll have no coppers raiding my place for the likes of you!"

Kregg stumbled to his feet and staggered out. Trella ran to the unconscious Motwick's side.

"That means you, too, lady," said the bartender beside her. "You and your boy friend get out of here. You oughtn't to have come here in the first place."

"May I help you, Miss?" asked a deep, resonant voice behind her.

She straightened from her anxious examination of Motwick. The squat man was standing there, an apologetic look on his face.

She looked contemptuously at the massive muscles whose help had been denied her. Her arm ached where the dark man had grasped it. The broad face be-

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fore her was not unhandsome, and the blue eyes were disconcertingly direct, but she despised him for a coward.

"I'm sorry I couldn't fight those men for you, Miss, but I just couldn't," he said miserably, as though reading her thoughts. "But no one will bother you on the street if I'm with you."

"A lot of protection you'd be if they did!" she snapped. "But I'm desperate. You can carry him to the Stellar Hotel for me."

The gravity of Ganymede was hardly more than that of Earth's moon, but the way the man picked up the limp Motwick with one hand and tossed him over a shoulder was startling: as though he lifted a feather pillow. He followed Trella out the door of the Golden Satellite and fell in step beside her. Immediately she was grateful for his presence. The dimly lighted street was not crowded, but she didn't like the looks of the men she saw.

The transparent dome of Jupiter's View was faintly visible in the reflected night lights of the colonial city, but the lights were overwhelmed by the giant, vari-colored disc of Jupiter itself, riding high in the sky.

"I'm Quest Mansard, Miss," said her companion. "I'm just in from Jupiter."

"I'm Trella Nuspar," she said, favoring him with a green-eyed glance. "You mean Io, don't you —or Moon Five?"

"No," he said, grinning at her. He had an engaging grin, with even white teeth. "I meant Jupiter."

"You're lying," she said flatly. "No one has ever landed on Jupiter. It would be impossible to blast off again."

"My parents landed on Jupiter, and I blasted off from it," he said soberly. "I was born there. Have you ever heard of Dr. Eriklund Mansard?"

"I certainly have," she said, her interest taking a sudden upward turn. "He developed the surgiscope, didn't he? But his ship was drawn into Jupiter and lost."

"It was drawn into Jupiter, but he landed it successfully," said Quest. "He and my mother lived on Jupiter until the oxygen equipment wore out at last. I was born and brought up there, and I was finally able to build a small rocket with a powerful enough drive to clear the planet."

She looked at him. He was short, half a head shorter than she, but broad and powerful as a man might be who had grown up in heavy gravity. He trod the street with a light, controlled step, seeming to deliberately hold himself down.

"If Dr. Mansard succeeded in landing on Jupiter, why didn't anyone ever hear from him again?" she demanded.

"Because," said Quest, "his radio was sabotaged, just as his ship's drive was."

"Jupiter strength," she murmured, looking him over coolly.

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"You wear Motwick on your shoulder like a scarf. But you couldn't bring yourself to help a woman against two thugs."

He flushed.

"I'm sorry," he said. "That's something I couldn't help."

"Why not?"

"I don't know. It's not that I'm afraid, but there's something in me that makes me back away from the prospect of fighting anyone."

Trella sighed. Cowardice was a state of mind. It was peculiarly inappropriate, but not unbelievable, that the strongest and most agile man on Ganymede should be a coward. Well, she thought with a rush of sympathy, he couldn't help being what he was.

They had reached the more brightly lighted section of the city now. Trella could get a cab from here, but the Stellar Hotel wasn't far. They walked on.

Trella had the desk clerk call a cab to deliver the unconscious Motwick to his home. She and Quest had a late sandwich in the coffee shop.

"I landed here only a week ago," he told her, his eyes frankly admiring her honey-colored hair and comely face. "I'm heading for Earth on the next spaceship."

"We'll be traveling companions, then," she said. "I'm going back on that ship, too."

For some reason she decided against telling him that the assignment on which she had come to the Jupiter system was to gather his own father's notebooks and take them back to Earth.

Motwick was an irresponsible playboy whom Trella had known briefly on Earth, and Trella was glad to dispense with his company for the remaining three weeks before the spaceship blasted off. She found herself enjoying the steadier companionship of Quest.

As a matter of fact, she found herself enjoying his companionship more than she intended to. She found herself falling in love with him.

Now this did not suit her at all. Trella had always liked her men tall and dark. She had determined that when she married it would be to a curly-haired six-footer.

She was not at all happy about being so strongly attracted to a man several inches shorter than she. She was particularly unhappy about feeling drawn to a man who was a coward.

The ship that they boarded on Moon Nine was one of the newer ships that could attain a hundred-mile-per-second velocity and take a hyperbolic path to Earth, but it would still require fifty-four days to make the trip. So Trella was delighted to find that the ship was the *Cometfire* and its skipper was her old friend, dark-eyed, curly-haired Jakdane Gille.

"Jakdane," she said, flirting with him with her eyes as in

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days gone by, "I need a chaperon this trip, and you're ideal for the job."

"I never thought of myself in quite that light, but maybe I'm getting old," he answered, laughing. "What's your trouble, Trella?"

"I'm in love with that huge chunk of man who came aboard with me, and I'm not sure I ought to be," she confessed. "I may need protection against myself till we get to Earth."

"If it's to keep you out of another fellow's clutches, I'm your man," agreed Jakdane heartily. "I always had a mind to save you for myself. I'll guarantee you won't have a moment alone with him the whole trip."

"You don't have to be that thorough about it," she protested hastily. "I want to get a little enjoyment out of being in love. But if I feel myself weakening too much, I'll holler for help."

The *Cometfire* swung around great Jupiter in an opening arc and plummeted ever more swiftly toward the tight circles of the inner planets. There were four crew members and three passengers aboard the ship's tiny personnel sphere, and Trella was thrown with Quest almost constantly. She enjoyed every minute of it.

She told him only that she was a messenger, sent out to Ganymede to pick up some important papers and take them back to Earth. She was tempted to tell him what the papers were. Her employer had impressed upon her that her mission was confidential, but surely Dom Blessing could not object to Dr. Mansard's son knowing about it.

All these things had happened before she was born, and she did not know what Dom Blessing's relation to Dr. Mansard had been, but it must have been very close. She knew that Dr. Mansard had invented the surgiscope.

This was an instrument with a three-dimensional screen as its heart. The screen was a cubical frame in which an apparently solid image was built up of an object under an electron microscope.

The actual cutting instrument of the surgiscope was an ion stream. By operating a tool in the three-dimensional screen, corresponding movements were made by the ion stream on the object under the microscope. The principal was the same as that used in operation of remote control "hands" in atomic laboratories to handle hot material, and with the surgiscope very delicate operations could be performed at the cellular level.

Dr. Mansard and his wife had disappeared into the turbulent atmosphere of Jupiter just after his invention of the surgiscope, and it had been developed by Dom Blessing. Its success had built Spaceway Instruments, Incorporated, which Blessing headed.

Through all these years since Dr. Mansard's disappearance,

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Blessing had been searching the Jovian moons for a second, hidden laboratory of Dr. Mansard. When it was found at last, he sent Trella, his most trusted secretary, to Ganymede to bring back to him the notebooks found there.

Blessing would, of course, be happy to learn that a son of Dr. Mansard lived, and would see that he received his rightful share of the inheritance. Because of this, Trella was tempted to tell Quest the good news herself; but she decided against it. It was Blessing's privilege to do this his own way, and he might not appreciate her meddling.

At midtrip, Trella made a rueful confession to Jakdane.

"It seems I was taking unnecessary precautions when I asked you to be a chaperon," she said. "I kept waiting for Quest to do something, and when he didn't I told him I loved him."

"What did he say?"

"It's very peculiar," she said unhappily. "He said he *can't* love me. He said he wants to love me and he feels that he should, but there's something in him that refuses to permit it."

She expected Jakdane to salve her wounded feelings with a sympathetic pleasantry, but he did not. Instead, he just looked at her very thoughtfully and said no more about the matter.

He explained his attitude after Asrange ran amuck.

Asrange was the third passenger. He was a lean, saturnine individual who said little and kept to himself as much as possible. He was distantly polite in his relations with both crew and other passengers, and never showed the slightest spark of emotion . . . until the day Quest squirted coffee on him.

It was one of those accidents that can occur easily in space. The passengers and the two crewmen on that particular waking shift (including Jakdane) were eating lunch on the center-deck. Quest picked up his bulb of coffee, but inadvertently pressed it before he got it to his lips. The coffee squirted all over the front of Asrange's clean white tunic.

"I'm sorry!" exclaimed Quest in distress.

The man's eyes went wide and he snarled. So quickly it seemed impossible, he had unbuckled himself from his seat and hurled himself backward from the table with an incoherent cry. He seized the first object his hand touched—it happened to be a heavy wooden cane leaning against Jakdane's bunk—propelled himself like a projectile at Quest.

Quest rose from the table in a sudden uncoiling of movement. He did not unbuckle his safety belt—he rose and it snapped like a string.

For a moment Trella thought he was going to meet Asrange's assault. But he fled in a long leap toward the companionway leading to the astrogation deck

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above. Landing feet-first in the middle of the table and rebounding, Asrange pursued with the stick upraised.

In his haste, Quest missed the companionway in his leap and was cornered against one of the bunks. Asrange descended on him like an avenging angel and, holding onto the bunk with one hand, rained savage blows on his head and shoulders with the heavy stick.

Quest made no effort to retaliate. He cowered under the attack, holding his hands in front of him as if to ward it off. In a moment, Jakdane and the other crewman had reached Asrange and pulled him off.

When they had Asrange in irons, Jakdane turned to Quest, who was now sitting unhappily at the table.

"Take it easy," he advised. "I'll wake the psychosurgeon and have him look you over. Just stay there."

Quest shook his head.

"Don't bother him," he said. "It's nothing but a few bruises."

"Bruises? Man, that club could have broken your skull! Or a couple of ribs, at the very least."

"I'm all right," insisted Quest; and when the skeptical Jakdane insisted on examining him carefully, he had to admit it. There was hardly a mark on him from the blows.

"If it didn't hurt you any more than that, why didn't you take that stick away from him?" demanded Jakdane. "You could have, easily."

"I couldn't," said Quest miserably, and turned his face away.

Later, alone with Trella on the control deck, Jakdane gave her some sober advice.

"If you think you're in love with Quest, forget it," he said.

"Why? Because he's a coward? I know that ought to make me despise him, but it doesn't any more."

"Not because he's a coward. Because he's an android!"

"What? Jakdane, you can't be serious!"

"I am. I say he's an android, an artificial imitation of a man. It all figures.

"Look, Trella, he said he was born on Jupiter. A human could stand the gravity of Jupiter, inside a dome or a ship, but what human could stand the rocket acceleration necessary to break free of Jupiter? Here's a man strong enough to break a spaceship safety belt just by getting up out of his chair against it, tough enough to take a beating with a heavy stick without being injured. How can you believe he's really human?"

Trella remembered the thug Kregg striking Quest in the face and then crying that he had injured his hand on the bar.

"But he said Dr. Mansard was his father," protested Trella.

"Robots and androids frequently look on their makers as their parents," said Jakdane. "Quest may not even know he's

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artificial. Do you know how Mansard died?"

"The oxygen equipment failed, Quest said."

"Yes. Do you know when?"

"No. Quest never did tell me, that I remember."

"He told me: a year before Quest made his rocket flight to Ganymede! If the oxygen equipment failed, how do you think *Quest* lived in the poisonous atmosphere of Jupiter, if he's human?"

Trella was silent.

"For the protection of humans, there are two psychological traits built into every robot and android," said Jakdane gently. "The first is that they can never, under any circumstances, attack a human being, even in self defense. The second is that, while they may understand sexual desire objectively, they can never experience it themselves.

"Those characteristics fit your man Quest to a T, Trella. There is no other explanation for him: he must be an android."

Trella did not want to believe Jakdane was right, but his reasoning was unassailable. Looking upon Quest as an android, many things were explained: his great strength, his short, broad build, his immunity to injury, his refusal to defend himself against a human, his inability to return Trella's love for him.

It was not inconceivable that she should have unknowingly fallen in love with an android. Humans could love androids, with real affection, even knowing that they were artificial. There were instances of android nursemaids who were virtually members of the families owning them.

She was glad now that she had not told Quest of her mission to Ganymede. He thought he was Dr. Mansard's son, but an android had no legal right of inheritance from his owner. She would leave it to Dom Blessing to decide what to do about Quest.

Thus she did not, as she had intended originally, speak to Quest about seeing him again after she had completed her assignment. Even if Jakdane was wrong and Quest was human—as now seemed unlikely—Quest had told her he could not love her. Her best course was to try to forget him.

Nor did Quest try to arrange with her for a later meeting.

"It has been pleasant knowing you, Trella," he said when they left the G-boat at White Sands. A faraway look came into his blue eyes, and he added: "I'm sorry things couldn't have been different, somehow."

"Let's don't be sorry for what we can't help," she said gently, taking his hand in farewell.

Trella took a fast plane from White Sands, and twenty-four hours later walked up the front steps of the familiar brownstone house on the outskirts of Washington.

Dom Blessing himself met her at the door, a stooped, graying

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man who peered at her over his spectacles.

"You have the papers, eh?" he said, spying the brief case. "Good, good. Come in and we'll see what we have, eh?"

She accompanied him through the bare, windowless anteroom which had always seemed to her such a strange feature of this luxurious house, and they entered the big living room. They sat before a fire in the old-fashioned fireplace and Blessing opened the brief case with trembling hands.

"There are things here," he said, his eyes sparkling as he glanced through the notebooks. "Yes, there are things here. We shall make something of these, Miss Trella, eh?"

"I'm glad they're something you can use, Mr. Blessing," she said. "There's something else I found on my trip, that I think I should tell you about."

She told him about Quest.

"He thinks he's the son of Dr. Mansard," she finished, "but apparently he is, without knowing it, an android Dr. Mansard built on Jupiter."

"He came back to Earth with you, eh?" asked Blessing intently.

"Yes. I'm afraid it's your decision whether to let him go on living as a man or to tell him he's an android and claim ownership as Dr. Mansard's heir."

Trella planned to spend a few days resting in her employer's spacious home, and then to take a short vacation before resuming her duties as his confidential secretary. The next morning when she came down from her room, a change had been made.

Two armed men were with Dom Blessing at breakfast and accompanied him wherever he went. She discovered that two more men with guns were stationed in the bare anteroom and a guard was stationed at every entrance to the house.

"Why all the protection?" she asked Blessing.

"A wealthy man must be careful," said Blessing cheerfully. "When we don't understand all the implications of new circumstances, we must be prepared for anything, eh?"

There was only one new circumstance Trella could think of. Without actually intending to, she exclaimed:

"You aren't afraid of Quest? Why, an android can't hurt a human!"

Blessing peered at her over his spectacles.

"And what if he isn't an android, eh? And if he is—what if old Mansard didn't build in the prohibition against harming humans that's required by law? What about that, eh?"

Trella was silent, shocked. There was something here she hadn't known about, hadn't even suspected. For some reason, Dom Blessing feared Dr. Eriklund Mansard . . . or his heir . . . or his mechanical servant.

She was sure that Blessing was wrong, that Quest, whether man or android, intended no

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harm to him. Surely, Quest would have said something of such bitterness during their long time together on Ganymede and aspace, since he did not know of Trella's connection with Blessing. But, since this was to be the atmosphere of Blessing's house, she was glad that he decided to assign her to take the Mansard papers to the New York laboratory.

Quest came the day before she was scheduled to leave.

Trella was in the living room with Blessing, discussing the instructions she was to give to the laboratory officials in New York. The two bodyguards were with them. The other guards were at their posts.

Trella heard the doorbell ring. The heavy oaken front door was kept locked now, and the guards in the anteroom examined callers through a tiny window.

Suddenly alarm bells rang all over the house. There was a terrific crash outside the room as the front door splintered. There were shouts and the sound of a shot.

"The steel doors!" cried Blessing, turning white. "Let's get out of here."

He and his bodyguards ran through the back of the house out of the garage.

Blessing, ahead of the rest, leaped into one of the cars and started the engine.

The door from the house shattered and Quest burst through. The two guards turned and fired together.

He could be hurt by bullets. He was staggered momentarily.

Then, in a blur of motion, he sprang forward and swept the guards aside with one hand with such force that they skidded across the floor and lay in an unconscious heap against the rear of the garage. Trella had opened the door of the car, but it was wrenched from her hand as Blessing stepped on the accelerator and it leaped into the driveway with spinning wheels.

Quest was after it, like a chunky deer, running faster than Trella had ever seen a man run before.

Blessing slowed for the turn at the end of the driveway and glanced back over his shoulder. Seeing Quest almost upon him, he slammed down the accelerator and twisted the wheel hard.

The car whipped into the street, careened, and rolled over and over, bringing up against a tree on the other side in a twisted tangle of wreckage.

With a horrified gasp, Trella ran down the driveway toward the smoking heap of metal. Quest was already beside it, probing it. As she reached his side, he lifted the torn body of Dom Blessing. Blessing was dead.

"I'm lucky," said Quest soberly. "I would have murdered him."

"But why, Quest? I knew he was afraid of you, but he didn't tell me why."

"It was conditioned into me," answered Quest. "I didn't know

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it until just now, when it ended, but my father conditioned me psychologically from my birth to the task of hunting down Dom Blessing and killing him. It was an unconscious drive in me that wouldn't release me until the task was finished.

"You see, Blessing was my father's assistant on Ganymede. Right after my father completed development of the surgiscope, he and my mother blasted off for Io. Blessing wanted the valuable rights to the surgiscope, and he sabotaged the ship's drive so it would fall into Jupiter.

"But my father was able to control it in the heavy atmosphere of Jupiter, and landed it successfully. I was born there, and he conditioned me to come to Earth and track down Blessing. I know now that it was part of the conditioning that I was unable to fight any other man until my task was finished: it might have gotten me in trouble and diverted me from that purpose."

More gently than Trella would have believed possible for his Jupiter-strong muscles, Quest took her in his arms.

"Now I can say I love you," he said. "That was part of the conditioning too: I couldn't love any woman until my job was done."

Trella disengaged herself.

"I'm sorry," she said. "Don't you know this, too, now: that you're not a man, but an android?"

He looked at her in astonishment, stunned by her words.

"What in space makes you think that?" he demanded.

"Why, Quest, it's obvious," she cried, tears in her eyes. "Everything about you . . . your build, suited for Jupiter's gravity . . . your strength . . . the fact that you were able to live in Jupiter's atmosphere after the oxygen equipment failed. I know you think Dr. Mansard was your father, but androids often believe that."

He grinned at her.

"I'm no android," he said confidently. "Do you forget my father was inventor of the surgiscope? He knew I'd have to grow up on Jupiter, and he operated on the genes before I was born. He altered my inherited characteristics to adapt me to the climate of Jupiter . . . even to being able to breathe a chlorine atmosphere as well as an oxygen atmosphere."

Trella looked at him. He was not badly hurt, any more than an elephant would have been, but his tunic was stained with red blood where the bullets had struck him. Normal android blood was green.

"How can you be sure?" she asked doubtfully.

"Androids are made," he answered with a laugh. "They don't grow up. And I remember my boyhood on Jupiter very well."

He took her in his arms again, and this time she did not resist. His lips were very human.

THE END

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The Stars Fought Back

By JOHN HAGAN

ILLUSTRATOR MARTINEZ

Will we eventually antagonize our space neighbors by flinging atom bombs and rockets around too enthusiastically? Who can say for sure? But if we do, we may be punished without even being aware of it. John Hagan, a newcomer to AMAZING STORIES *tells us how this could come about. Let's hope the folks in outer space don't consult with John before retaliating for wrongs we do them.*

MILITARY Headquarters are pretty much alike, except that they grow a bit more involved year by year. The big General at the head of a long table in a particular Headquarters had a satisfied look as he glanced around:

"Gentlemen, in fifteen minutes we start countdown on the first flight of our missile. I need not tell you the feeling of satisfaction within me at this moment. I know you are all as happy at this conclusion of our great project."

He took another look at the faces. A few were paying close attention, most of them men on his personal staff. Others had an indifferent attitude, chiefly the research men who had made most of this moment possible and cared little for a practical demonstration of a thing they knew must fly. Back in the days of flying prototypes, experimental birds, these men had been interested, but not now. Last of all, a few men were frankly angry and conversed with no attempt to conceal dislike of the arrogant General heading the assemblage. He noted them, then continued, trying to draw the group into a unit:

"Countdown will start, as I said, in fifteen minutes. Zero will be at 1430 hours. Apogee, the height of arc, of our bird will be attained twenty minutes later. Add about fifteen minutes and you have the moment when our enemy will have felt the strength of our defense. Are there any comments?"

That did bring a reaction from one of the angry. A gray-haired man rose and spoke:

"One here. I take exception to the word 'defense'. May I ask if

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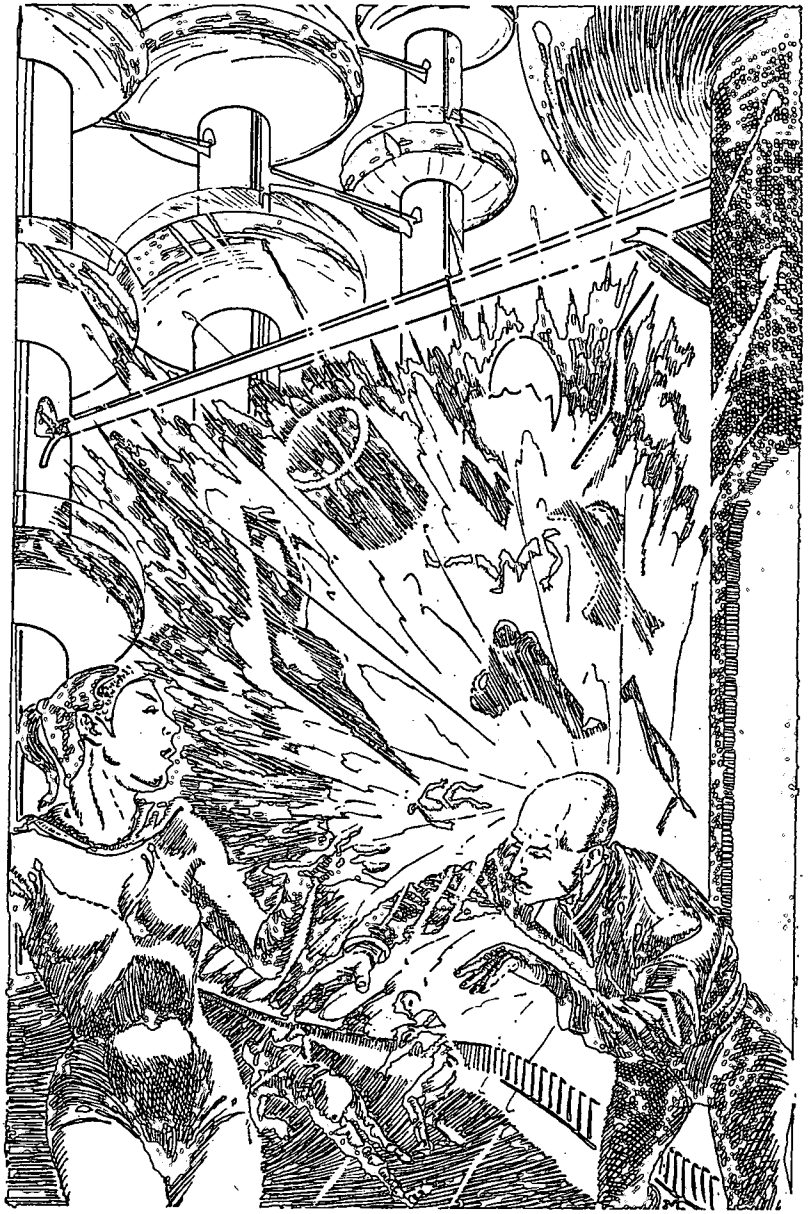

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you seriously expect us to consider loosing a deadly missile on an unprepared city to be defense?"

The General was stung:

"That is very nearly treason, Doctor Newmeyer. May I remind you that certain of your more faint-hearted colleagues have already felt the displeasure of our government for voicing similar sentiments? This movement is purely defensive, strategically defensive, and we must all keep that in mind. If our enemy had perfected the system before we did, there is no doubt it would be launched promptly against us. We know we are several days ahead of them in preparation and advantage must be taken of the opportunity. After we have received the submission of their leaders, we can spread true democracy on this globe and assure ourselves freedom will not be challenged. With this dawn of a new day in mind, I suggest we all rise for a moment of prayer that our efforts may be crowned by success."

The group rose and stood in silence, with sardonic grins hidden by the more hardened. Sonorously, the General intoned certain ritualistic words of great piety, then nodded with solemn appreciation as the members of his staff murmured: "Amen."

After that, the General felt he had paid sufficient homage and proceeded to more practical matters:

"Gentlemen, we will now observe, through the medium of television, closed-beam, of course, the scene in the Control Room as last-minute preparations are completed. I am sure we will all feel a glow of accomplishment as we watch the flawless fruit of our labors rise into space." He turned his attention to an Intercom set and a large screen lighted on one wall of the conference room. The televised picture revealed a busy group of men in uniform checking dials and gauges furiously. The General nodded in satisfaction and asked of his Intercom:

"Is everything in order?"

Obviously, the Intercom was two-way since a smartly dressed Colonel spun around and saluted:

"Everything, sir. Fueling is complete and pressures in all missile stages satisfactory." He hesitated. "We would like to run one more test on the fuel mixture, sir, and re-calculate a minor point. Could the launching be delayed a few hours to permit this check?"

"Nonsense, man." The General was irritated. "We are about to permit the ranking officials of our government a view of the launching. Their time is valuable, so get on with it."

"Yes, sir." The Colonel knew better than to argue with his superior. That was why he held command in the Control House, rather than other officers who proffered opinions of their own. "Zero is thirteen minutes, sir. May I ask if you care to test your firing control button?"

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"With pleasure." The General fondly regarded a large plastic block on the table before him. From its center, like an unwinking eye, a red button stood out. One stubby forefinger came to rest on the button and the General asked. "When?"

"Now, sir, if you please." A faint buzz and a winking light on that faraway panelboard. "Very good, sir, it makes contact. We will close the circuit here when countdown reaches minus ten. Firing must take place at exactly zero, sir."

"I know that, man, do you take me for an idiot?" The man at the button glared at the screen and missed a faint grin on the mouth of Doctor Newmeyer. Instead, with no reply, the General could lean back and light a cigar, obviously in high good humor over his part in the show. Snapping his fingers, he cut the Intercom and spoke to the group around him: "Gentlemen, we are privileged to be present at an historic moment, but there is no reason for such serious faces. We will be lifting the shadow that has lain over the face of our nation for many years. Perhaps." He drawled. "We should have a pool on the size of the bag with this first shot." He waited but no one answered. The gruesomeness of betting on the deaths of thousands of people was too grisly for even the hard-bitten staff men. The civilians simply ignored such an obscene idea. Finally, feeling the disapproval, the General growled. "Forget it." And muttered to his Aide. "Chicken-hearted weaklings."

After that, minutes ticked by. Fateful minutes slipping irrecoverably into eternity. The Intercom key was open again and the voices from the Control House clear and sharp. The group at Headquarters heard the telemetering stations report in turn. Abner, Barney, Chuck, Daniel, Elias. All the rest in alphabetical order. Then the stations that would observe any deviation from course, these known as yaw and roll stations. All these would report the flight till it passed the top of its arc.

When the stations were finished, the sections in the Control House itself reported. Tanks fully loaded, pressure satisfactory, stage separation devices in order. The trim Colonel checked all the reports on his data sheet, then gave out his last pre-flight order:

"Zero minus sixty seconds. Warhead arm and report."

Ten seconds more, while Doctor Newmeyer wiped a wet brow, and the answer came:

"Warhead armed to explode on impact."

Inexorably, the second hand ticked around. At zero minus ten seconds, the Colonel flipped a switch and glanced over a shoulder. Understanding the gesture, the General muttered:

"I have it all in my hand now." And his finger poised on the button.

"Five." Another vision screen

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lighted to show the monster itself, erect on its launch stand. "Four. Three. Two. One."

"Zero." The General's finger plunged down and a great burst of flame and smoke, radiating mighty forces, swept out from beneath the missile. Slowly it lifted, then more rapidly. Gathering speed with each foot, it drove up and out of sight in seconds on that pillar of expanding fire. The visibly sweating Newmeyer muttered quietly:

"God forgive us." But no one heard him.

Abner reported:

"First stage separated one and three-tenth seconds ahead of schedule time."

Barney:

"Barney in. Missile five and two-tenth seconds ahead of the schedule from firing point."

While the next two were reporting, Newmeyer cried out:

"Destroy it. Order Command Destruct, General, it's going too fast!"

The General puffed on his cigar, undisturbed:

"Nonsense, man. Just a better bird than we hoped to get. Fine performance, fine."

"Elias in. Second stage separating. Fifty-nine seconds ahead of time. Speed—" A hesitation, then apologetically. "Speed must be rechecked, sir. Error in calculation."

"I'll break that fool." The General muttered to his Aide. "Imagine making a mistake at a time like this."

"Forney in." This voice had a puzzled note. "Bird is on a course elongating above scheduled apogee. Distance traveled nearly two minutes ahead of schedule. Speed well above predicted calculations, sir." A hesitation. "May I offer an opinion, sir?"

The Colonel snapped, so they heard him at Headquarters:

"No. Clear air for next report."

"Gregory in." This voice was calm. Obviously the man at the microphone had heard Forney snubbed. "Missile still rising. Far above scheduled apogee. Missile operating beyond escape velocity and is leaving Earth."

In Control House and Headquarters, men leaped to their feet in dismay, the General roaring:

"Cut that fool off. Get his name and relieve him. Colonel, get the next station."

Silence for a moment, then the Colonel demanded:

"Hennessey, come in. Hennessey, come in."

"Hennessey in. Nothing to report. Nothing overhead, sir."

"There must be." The General's face was purple. "Colonel, are all your men blind or crazy? Get the path of that bird figured out."

The Colonel had been busy and had news:

"There is no longer a path, sir. Yaw and roll emergency stations agree with last reports. The missile has left our planet's zone of attraction."

In the passage of a few hours

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after that fatal pronouncement, the General suffered countless humiliations. Military pride in presenting a triumph for the edification of ranking officialdom backfired badly. From Chief Executive down to the Under-Secretary, demands for explanations refused to take the plausible or expedient for an excuse. The plain truth was demanded and the tortured General lacked the power to provide that one thing; an honest explanation. Worse still, in trying to stave off various Chiefs of Staff, Senators and clamoring lesser officials, the General improvised details to conform to what he considered the importance or technical knowledge of the questioner in each case. To his horror, the civilian and military inquisitors began to confer and found out they were getting contradictory stories. The hitherto impregnable head of the missile program heard himself called a liar more than once.

Desperately, the General demanded of the men still seated in his Headquarters:

"Can't some of you give me a story that will stick and get us off the hook?"

The gray-haired Newmeyer asked, ironically:

"Us, General?"

"All right, all right. Me, then. What the hell can I tell these people? They'll have my scalp if I can't give them a better explanation than I have so far. I want an accurate statement that will cover all we know of what actually happened."

"General." Newmeyer interposed, amusedly. "You are in no position to be demanding. However, some of my ex-colleagues who are, as you put it, under the displeasure of the government, can help you out, if you ask them nicely."

"Not yet, Doctor." The General flushed. "I'll have nothing to do with those— Hell, there goes that blasted red light again." Referring to a winking signal that told of some peremptory call that could not be denied. The beleaguered button pusher grabbed an instrument and snarled into it. "Yes, what do you want? Oh, Mr. Secretary, I didn't recognize your voice. Yes, I did. Yes, sir. Yes, of course. Immediately, sir. A full report in one hour? That is hardly possible— But, you see— No, sir, I am not being evasive. I will give you all the information I can get. Yes, sir, it will be clear and sufficient for your needs. Yes, sir, without fail." The General set the phone back on its rest and paused for what seemed a long time.

The group waited for his explanation:

"Gentlemen." A defeated General spoke. "That was not our own chief, that was the Secretary of State. He demands a full explanation and I do not have one. Our opponents, in the most diplomatic terms, have demanded an explanation as well. That demand is in the form of an ultimatum. I have just one hour to

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avert catastrophe for our country. Who can help me?"

"Some of the men you turned out, General." Newmeyer let the knife twist in the raw wound. "Especially Dr. Heagney, the fuels expert. He was, if you may recall, exceedingly dubious about this launching. To be brutally frank, he said you were a murdering swine and left voluntarily. None of the others can answer this question as well since Dr. Heagney foresaw this result and prepared for it. I can put you in touch with him if you wish."

The General fought his mental battle alone. His Staff was no help and kept their faces averted till it was over. The watchers could tell when the decision was made by the bitter glance flung at the telephone. Then the General spoke:

"You win, Newmeyer. Where can I reach him?"

The gray-haired scientist replied:

"Permit me to place a call to York Observatory, General. I believe Dr. Heagney went there to observe the flight of your bird. He should have information of value to you."

Even though demoralized, Headquarters could still function efficiently, and did. Contact with the observatory took only minutes and the cool voice of Heagney spoke almost at once:

"Yes, General, I observed the flight. I will not congratulate you. Why are you calling me?"

"I need help, Doctor. In fact, our country needs help. We are in a tight spot." He explained the situation.

"What do you wish to know?"

"First, why did it go so far off schedule?"

"That last fuel formula was an improvement. It should have been tested again."

The General knew from Newmeyer's smile that he recalled the Colonel making such a request minutes before the start of the flight, and turned red. Then asked another question:

"Well, granted you are right, where did the damned thing go?"

"I am right. And it went into deep space. Beyond any attraction of Earth's gravity. It will not return here."

"That's one relief." The General mopped his brow. He had been headaching for fear it would circle the Earth and come back to destroy a home city. "We can forget about the missile then?"

"Not entirely, General." Heagney's voice had an edge. "It is armed with a warhead. I suppose?"

"Yes, armed to explode on impact. Nuclear, of course."

"In that case, since our Moon is on the far side of Earth, the missile will head for the nearest heavenly body of size. Since that body is at inferior conjunction, it will probably be the next outward planet. Our neighbor. The system Doctor Newmeyer devised to deflect intercepting minor bodies will get it safely

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through any meteor fields it happens to meet. The course of the missile, and the speed it was making, indicate contact in just seven days and four hours. With a small error percentage, of course. Since your nuclear device is probably a powerful one, the effect should be visible to all high-powered telescopes. Does that satisfy the military penchant for destruction?"

"Better than having it drop back on us, Doctor." A trace of arrogance was left in the military voice till the General recalled the diplomatic crisis. "I am required to submit an explanation that will hold water on the other side. Can you suggest anything?"

"Yes, I can." Heagney laughed, grimly. "It may surprise you to know the actual result of the launching was not entirely a surprise to me. After all, I created the fuel. To get back to your point; not for your sake; nor that of your stupid military clique; but for the sake of our common country and peace, I have an adequate answer. But it has a string on it."

"What is it, Doctor?" The General lifted a wet palm from his desk and wiped his head.

"I want positive assurance that no future missiles will be launched upon unsuspecting cities. Provide that assurance and I will give you the solution you need."

"I can't do that, Doctor. I have to obey my orders."

"Then get the promise from your top echelon, General. I can hold this phone while you contact them. I know you are in a position to do so or you would not be so worried."

Contact with the State Department brought immediate agreement from the frantic Secretary:

"Yes, yes, General, promise him what he wants, but get the explanation we need. Those people are sitting in my outer office this moment, watching the clock. Our enemy has a missile nearly ready to fire and we have less than an hour to stop it. Get what we need and hold this phone open."

Heagney's voice was half-amused at the result:

"Quite an intelligent man, the Secretary. He realizes the surprise element is gone. I suggest you give this story to the press of the world, and our enemy. The missile was fired as a research vehicle into space. Fired deliberately, with full knowledge it would leave Earth. Give your snivelling virtue a pat on the back and proclaim yourself innocent of all harmful intent. The real brains on the other side will not believe you, but the public will buy the idea, I hope, and you will be famous. Tell the reporters the missile will strike on our neighbor in space at this time."

A series of calculations was hastily copied by a staff member. "Tell them we invite their collaboration in observing the fall and suggest a pooling of re-

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sources in further research. They won't do that, and we probably won't either, but it sounds good. If you cannot sell the space vehicle idea—" He paused.

"What then, Doctor?"

"If not, General, we can continue this discussion in some theological warmer climate. Good day."

Duly, the answer was released, publicly and diplomatically. A half-sneering Foreign Office across the ocean was obliged, by pressure of public opinion, on the wave of public enthusiasm over this real conquest of space, to accept it. This was no satellite circling the Earth, but a real drive into space. The fury of an undeceived enemy military clique was held back pending the fall on the neighboring planet. A compromise was worked out to delay any decision till after the scheduled impact.

And there matters remained while others made the decision.

"Going out to spy on the neighbors, Father?"

"That," came a half-amused rejoinder from a mature-looking individual checking space gear, "is the poorest possible way to describe a simple surveillance mission that I ever heard." He tossed his equipment into the counterpart of a duffle bag, and sighed. "Circumstances such as your mother liking a very fine garden induce me to volunteer for this duty once in a long while. The credit bonus for space duty brings our family a bit of luxury otherwise denied us. And this tour will really be a very easy one. The Council desires to keep abreast of the late scientific developments on our neighboring planet. Without any revelation of our presence."

A soft voice interrupted, calling over a communicator:

"Turan. Turan. Attention, please."

"This is Turan." The father answered.

"An air car will pick you up in a short time. Please be ready."

"Certainly." Turan turned to his son again. "I wish I had arranged for you to accompany me this time, but I know you and a certain young lady have no desire to be that far apart. You will both be here to keep your mother company while I am away, I trust."

"Yes, Father." The young man smiled. "But she refuses to take that seriously. I believe she mentioned something about just being comforted by our presence and that she would keep the children from bothering us. Here she comes now."

Turan's eyes softened at the entrance of a beautiful woman:

"My dear, the air car will be here soon. A moment with you and I had better see the rest of this tribe of savages we have inflicted on a long-suffering civilization."

"That is no way for a doting father to speak of my five lovely babies." His wife smiled, then a shadow crossed her face. "I wish you were coming home, instead

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of going to check on the real savages of our system." She shook a foreboding head. "I always wonder what would happen if you were disabled and cast away among the people of the Third Planet. Those wars and the planning they do between wars on how to fight the next. They are not my kind." She shuddered.

"Hardly." Turan's lips compressed. "We actually had to go and observe them to learn what war could be like. It woke some of our more complacent citizens out of our pink dreams. Some exchanged the dreams for nightmares about what would happen if the Third Planet people achieved a method of space travel. I grant they are not particularly virtuous, but the very fact of an existent civilization tells us there are men of intelligence and forebearance among them."

"And some rather good-looking women." Her son laughed. "I saw some of the filmed reproductions of their broadcast programs. Mother, one of our ships delayed reporting for more than two hours because the crew were watching a contest to determine the best looking. Father, your face is getting red."

Turan waved a hand:

"Your mother could have won the contest with her hair upset and wearing her oldest clothes. We were just commiserating with the poor creatures over their ill-fortune."

Turan's son smiled at the evidence of affection between his parents and commented, softly:

"Father, when you come back, give me a short course on a series of replies like that, will you?"

The air car came soon after and lifted Turan away from a happy home, a devoted wife and the five children, plus a new face of great beauty. Melody, soon to be the bride of the oldest son. Turan sighed at leaving them but consoled himself with the thought it was only for a matter of thirty days and the duty would be over for a year. Home was a peaceful place and his world one of carefree plenty.

He arrived at the spaceport and greeted comrades who would share the month-long vigil. Interested exchanges related to family affairs since the last tour of duty with a tale of the births, marriages and the few deaths. Normal human gossip of any planet, even the civilized Fourth.

Then a lighted screen at one end of their comfortable quarters drew attention. A pleasant face appeared and a voice greeted each man by name. Nothing of hurry in the procedure since there was no need to hasten either briefing or departure. After a few minutes, the voice from the screen spoke casually,

"There are a few items of news from the ship now on patrol that may be of interest. As you gentlemen realize, a crisis is approaching in the affairs of our neighbors nearer the sun. Their

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major effort still concerns destructive weapons for use on other nations of their own world. Two main forces, with opposed ideologies, are leading the effort. Neither ideology is of great virtue except in their own propaganda releases to their own people. The progress in developing the weapons is hidden from the civilian populations except for boasts of superiority over the opposing forces. The entire matter is called classified." A note of amusement came into the voice. "Various grades of classification but one and all contain information known to the enemy Intelligence Section. As we could have predicted, the chief result of such classification of information is to furnish a smokescreen for the expenditure of funds without an accounting to the people who supply such funds. At this stage, the military plan self-governing missiles bearing nuclear warheads strong enough to destroy whole cities of the enemy. Their range will be great and speed sufficient to very nearly attain escape velocity. Experimental types have made a few trial runs and put small globes into orbits for checking of temperatures and so forth. In a year or two the missiles will be operational and put into production. A monstrous whirligig of destruction that may wipe out all life on the Third Planet."

"You said, self-governing," a quiet inquiry, "inferring unmanned vehicles, I presume?"

"Exactly. They are designed for destruction, not exploration. The better scientists working on this program delude themselves into a belief that the very destructive power is so great that an era of peace will ensue and space exploration follow. A search of the motives of the governing powers indicates otherwise. Perhaps common sense will overcome idiocy in good time but at present indications are that destruction is much more likely. If our neighbors worshipped one official god, his name would be Stupidity. Good trip, gentlemen."

Turan's ship drove toward the Third Planet for approximately two Earth days, then took another to locate and reach the ship they were relieving. Visits took place between the crew coming on duty and that leaving for home. The senior of the homebound ship waved a hand at a young crew member and told Turan:

"Junior, here, claims he caught something on an official band from below about launching a missile into deep space. We have nothing confirming it. The records I have checked over show no power developed sufficient to get a ship into deep space and our neighbors are not the kind to spend credits on a pure research program. Without blowing loud trumpets about it, anyway. We think the boy caught another of those fantastic concepts that are so popular on juvenile broadcasts. We monitor some of those occasionally to see

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what the other half thinks of our way of life." He grinned. "You fellows meet any space pirates on the way out here?"

In the general laughter, Turan patted the young man:

"Never mind, you and my boy can enjoy a laugh at this when he comes on duty. I admire your sense of responsibility to report the incident, knowing these old buzzards would laugh at you."

"Thank you, Turan." The young man felt better.

"Not at all. Consider this, though. Our neighbors would aim any first space vehicle at their own satellite. It is the obvious target for ease of impact observation. I cannot conceive of even our idiotic neighbors deliberately firing a missile into deep space at random. Naturally, we will continue checking and I will send you a personal message if we find a confirmation of any kind."

He waved the effusive thanks:

"Just like to see these old buzzards bowing from the waist if you were right and they missed something that important. If you find time, advise my family we arrived safely on station. Goodbye, for a while."

For several days following, the ship bearing Turan circled the Third Planet. Days in elapsed time but all on the dark side of Earth, the better to escape counter-observation. Violations of this rule had brought unpleasant publicity in the past till it was now standard practice to stay in the shadow.

Living and listening on the dark side failed to provide real news but the general tenor of the Earth broadcasts puzzled the crew of the spaceship. Turan conferred about it with his next in command:

"There is something strange going on. The two major opposing parties are referring to an observation of something in their immediate future. As if they were cooperating instead of quarreling. Yet there is a definite tension in the air. Their confounded aircraft are very active, as well, and I have been unable to find a clear area to sit in close and get a factual news broadcast. I suspect a general news censorship is in effect on something. One other odd notion bothers me."

"What is that, Turan?"

"Just that all the circumstances fit the idea that a space vehicle could have left Earth. I know it is ridiculous but all these sudden public statements about peace and research have a fictitious sound. I reported my theory before my last period of sleep. Did Base have any comment?"

"They asked if you were feeling well."

"I thought they would. Well, I'm going to sleep again now. Keep the usual lookout and monitoring but please rouse me if you observe any unusual activity below."

Hours later, Turan rolled over and yawned. Then glanced at the

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time-measuring device above his head. He started. There should have been a call for him nearly two hours back. The ship was extremely quiet, too. Perhaps the rascals were moping and homesick. Tired of watching a foolish race of people rushing along to self-destruction. A waste of time when family men could be where they enjoyed life most; at home. With that, the thought of Turan's own home came easily. Thoughts of the lovely woman who would be sitting in the garden nights now and watching the sky for his return. Or perhaps, a smile curved his face, the garden would be pre-empted by the young lovers these nights. A flashback came to Turan of his own days of courtship and the slender girl at whose approach he always thrilled and, at whose departure for however brief an interval, he had always felt a pang. Ah, but he still felt he was in the best time of life. The girl he had always loved matured beside him. The family that was part of both of them and, last of all, this eldest son with an intended bride. The whole universe could give him nothing more. Maturity brought the heaped-up rewards of faith dating back to that point in time where a man, or woman, found the other and one could say, in all truth, this is where life began.

His pleasant reverie was broken by a tap on the door:

"Turan, strap in. We are going to accelerate."

"Accelerate?" Turan leaped from his bunk. "Tell them to wait a moment." He ran from his cabin to the Control Room without waiting for further information.

A group of grave faces turned to meet his own. One of the men spoke with a deference strange among his people:

"Turan, orders from Base are to take position behind the satellite of our neighbor and await another ship. We are not, under any circumstances, to take a chance of being detected by the people of the Third Planet. This is a directive."

"But why?" Turan was puzzled. "Why all the mystery? Did they give you any clue about the change?"

"We questioned all we could but they were quite evasive, my friend. Frankly, we believe they have information lacking to the people of our ship, serious news of some kind. But there is no use speculating, we just have to wait."

They waited two full days while idle conversation on such matters was kept at a minimum. Turan's one query was rebuffed by the Base at home. Rebuffed pleasantly enough but with a definite refusal to release information. And, from their concealed position, they could get no news from the Third Planet.

Then the relief arrived. Not one ship, but many. Among the fleet, to Turan's amazement, a mighty vessel customarily reserved for explorations of great

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distance under rigid and dangerous conditions.

Without ceremony, Turan and his crew were invited to board the interstellar ship and escorted to the Control Room.

For a space of seconds, there was no sound in that assembly except a few harshly indrawn breaths that had the impact of blows. Turan, himself, stared helplessly at the speaker while his own personal world slowly crumpled into chaos. Half-doubt, horror and utter despair flooded his mind in a rising tide as he sought helplessly for some relief to the grim tidings. Into his memory came flashing visions of the beloved group he knew so well, and would know no more. The comrade seated on Turan's right reached out to touch his friend in sympathy, then dropped his hand with a hopeless gesture. Violence in death was horrible if it touched just one person of their world. The passing of a whole family overwhelmed them. Without exception, they suffered with their comrade.

Finally, Turan asked, in a ghostly voice:

"What caused the explosion?"

"A missile." The Council Head replied, with a trace of bitterness even in his quiet tones. "A missile launched by the people of this world we have been observing. As soon as we reached the scene and discovered radioactivity present, a check was made of the meteor control devices and the path of the incoming object pointed back to the Third Planet."

The group could all understand that statement. They knew the infallibility of the instruments set to destroy minor meteors and deflect the larger to uninhabited areas. The thin atmosphere of the Fourth Planet and its proximity to the Asteroid Belt had caused unfortunate accidents in the past. But existing safety measures had been sufficient up till now.

The calm voice answered incoherent murmurs of inquiry:

"The deflectors should have given warning of this monstrous object approaching, but the device was built, the recorders noted, with instrumentation of fiendish cleverness. It sheered away from all our deflectors and resumed course with the aid of its own mechanisms. That we can deduce from the tapes. It was a war device and the launchers foresaw the possibility of their enemies trying to destroy this weapon, so provided for that contingency. We, with no malice toward a living creature, have fallen unsuspecting victims to barbarism."

Suffering was there, suffering of the most intense nature, and bewilderment as well. Why? The question unspoken, yet so apparent to the observer. Why should such a tragedy have happened to him? He was a man of normal emotions, yet a man of a mature civilization and not given to foolish outbursts of indignation. That he hid what he could of his

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sorrow in no way lessened that grief.

The Council Head sighed, recalling the plan devised on the long voyage from their Base:

"Turan," he spoke gently, "it is not our thought that this outrage shall go unanswered. Are you sufficiently composed to hear the result of our discussion?"

The bereaved man shook off his misery and asked:

"What is your plan?"

"We have several choices. The first thought was to destroy these people utterly."

"No." Turan's answer was simple, yet final.

"We did not believe you would condone this course and honor you for your agreement that we must not descend to savagery. If you had insisted, we could have turned this planet into a minor sun. But indiscriminate murder is beyond the moral capacity of our race, so the idea was merely mentioned. Another alternative is to allow these people to go their way, trusting that the seeds of their own destruction would germinate and destroy their civilization, if such a culture can be called civilized. This again is merely murder by remote control. A third idea was to play at god-like stature, and attempt to frighten them into some sort of peace with each other. A poor method, in the opinion of the Council, since there are men of great reasoning power among them. No, none of these methods seem just or fair. We have one more, and it offers a challenge to our neighbors and a means of eliminating danger to us in the foreseeable future. Let me present the outline."

A stir of interest arose among the men who had not been present for the Council decision. The history of the unhappy Third Planet was generally known to the listeners and they wondered, collectively, if any cure for a world-wide mental illness was possible.

"Every planet with an atmosphere includes a band of air called the ionosphere both by us and the people below. In addition, they recognize something called the Heavyside Layer. Our neighbors use this particular layer to reflect etheric signals at varying angles and so communicate. A clever device, but they have no knowledge of the real function performed by this Heavyside Layer. We have learned that it serves as the positive pole for the motive force they call electricity. Just that. The negative pole is the mass of the planet itself. By using the powers within our scope to affect this ionosphere, we can destroy the Heavyside Layer, remove the positive pole and eliminate their electricity Without the positive component, nothing electrical will operate on the Third Planet. They will be thrown back on the use of water vapor and mechanically-heated fuel oil for power supply. Even the nuclear devices require electrical energy for operation. Men of their science could combat this

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effect and recreate electrical power if they devoted themselves to pure research, but we doubt their willingness if they realize it means the recreation of the war missiles. The changes in their culture will be painful and widespread, but they can adjust if they are determined to survive. All that is now accomplished so easily will require human labor. This is the decision of the Council. I trust it meets with general approval."

Turan came slowly to his feet and his drawn face reflected a harrowing inner struggle. Yet, as he spoke, there was a majesty about the man that lent a singular beauty to his features:

"I must register a protest against this action."

The Council Head nodded, gravely:

"Of all our people, you have the greatest right to be heard. Speak."

"This action decided upon by the Council seems to be just a substitute for immediate destruction. Will not these people sicken and die if deprived of light and heat? We pride ourselves upon our rise from the abyss of savagery and now we intend to exert the knowledge we have gained in wrecking the painful progress of these people who bear our shapes and may, at some future time, be well worthy to be called our brothers. If we smashed, burned, looted and finally obliterated these men, women and children, would such a course bring one breath of life back to those who were our loved ones? I cannot, in all conscience, approve a course that will render whole races of which I have little knowledge the same feeling of futility that lies in my own mind. They would never know why such a punishment was visited upon them. Is this the justice of my people?"

The stir of comment rolled about till the Council Head let his soothing tones roll out again:

"Were this so, we would indeed be no better than those upon whom we pretend to sit in judgment. However, this is not the entire case. A balance was struck before this method of eliminating danger was approved. The immediate loss of our neighbors will be their eventual gain. A second effect, beyond the loss of electricity, will be the creation of a shield that will deprive them of any view of the heavens. The heat of the sun will be absorbed by the changed layer effect and not escape as readily into space. A modified form of this effect on our home world ensures more equal distribution of heat and light. Even if it prevents accurate observation of the surface of our planet from any point in space. So it will be with our neighbors of the Third Planet. The climate will approximate late spring as it now exists in their moderate climate. Condensation of moisture will even out and the ground attain a greater fertility. Granted their color senses will be dulled to the more neutral tones,

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but the senses themselves will be dormant, not destroyed. Lands now in desert condition will become arable and a greater plenitude of food be available, if they work to produce it. We really think they will be far better off than at present, since the principal motivation for war will be gone. The facts are reduced to these. This world below us will become an entirely agrarian civilization. Again, if they work, they eat. If not?" He shrugged. "Best of all, their capacity to harm others will be restricted. If our neighbors wish to throw spears at each other, they can do so, but it will be within their own circle. Apart from the loss of electricity will be their loss of the glory of the stars. We have polarized our shield to permit our people to see the heavens, but such a move is not included here. The living generation will mourn this loss, but it will only be a folktale to the next and deteriorate into tribal memory afterward. In two hundred years of Third Planet time, the common people will scoff at the idea of heavenly bodies of light beyond the silver of their sky. It will be beyond conception."

Turan asked:

"Is this shield irremovable?"

"Not quite. We can continue observation of this planet by means of channels known to us alone and may, at some future time, slowly reverse the effect when we feel they can be trusted. The rest is in their own hands, for better or worse." He looked directly at Turan. "Is there any further objection?"

Turan spoke slowly, as one weighed down with responsibility:

"I think that I would rather die than lose sight of that glory we call the heavens. In the sight of the universe, I find the promise of the future that is my reason for living. Yet it is undeniably just that those who desecrate that glory shall be deprived of it." He let his outstretched hand fall to his side, heavily. "I withdraw my objection." With a firm, yet dejected step, he left.

An elderly man leaned on a hoe and glanced wearily up at an eternally gray sky. A sigh escaped him and he let languid thoughts carry him back to another day. A day shortly before confusion came to the world he knew then.

Today he was comfortable, well-fed, and happy enough in a family group where health was of prime consideration. Science had very nearly eliminated disease and deaths from injury were few. The slackened pace of life provided a margin of safety.

But something was lacking. Something his descendants would never know, he guessed. Even now, the younger generation snickered as the old people mourned and talked of other days.

There had been death and terror running loose for a while. Many had died of fright and more of laziness before the truth

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penetrated the minds of the survivors. To eat one must work.

A whistle from a train passing far down the valley brought the thought of far places. Those far places that used to be so close when the jets thundered across the sky, their sound trailing them by many seconds. Instead, one heard the clatter of that confounded windmill. Lousy mechanical device. Pumps that depended on steam or expensive oil. Cars that were few due to the same reason. Except for health, life had much of the 19th Century about it. News that took weeks arriving from any place overseas and was not worth repeating when it was heard. Not much incentive for organization, particularly with the rising generation content in tribal groups and fat with food from fertile lands. Men just did not seem to have the right incentive these days. Everybody, except the men of medicine and the allied fields, seemed to be degenerating into farmers and discussion into boasting about crops.

Crops. He cut a dulled brown weed from among the stalks of ripe gray grain and wondered. Was it better this way? He was living far longer than he should have expected and others were robbing the grave, too. Perhaps life without luxury had the advantage of greater length but it lacked the color he loved. And color? In the sense of shadings, that was the worst of all. Better not even to think of scarlet, blue and green. They were memories with so much of the vanished life before the Change.

Lastly, the Change itself. What had caused it? Some of the scientists suspected something, he knew, and a few even had an idea how to gradually overcome what had happened. But they all clamped their lips on the secret like Doctor Heagney, renowned today for his elimination of diseases. Heagney, blast him. A man who would not conform, even in the old days. The General-turned-farmer thought of that conversation on the day the Armed Forces were disbanded for good. Heagney had smiled and made a reply the General remembered:

"What brought on the Change? Why, I think we attacked the stars by firing that missile at random into space. We did a lot of damage, as we all observed. But we know there is no life on Mars, so no one was hurt. But," a smile on the grave old face, "the stars fought back. Just that, General, we attacked and the stars fought back."

THE END

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THE NON-EXISTENT MAN

By WYNNE WHITEFORD

ILLUSTRATOR VARGA

What man can imagine, man can do. You've heard that before, but the complications that would result from man's ability to tamper with time are endless and fascinating. In this time travel yarn Mark Fallon proves how quickly Man would wreck the universe if he had a chance.

MARK! I don't want you to go through with it!"

"What?" By the door, Mark Fallon turned. With two long strides he crossed to the table, putting his brief case on it. As he looked down at his wife, his black brows met in a single heavy bar across his pale face.

He put his hands on her shoulders. "Ria, we've been through this a hundred times. Tonight will be the last time I have free access to the laboratory."

"I don't want you to do it. I'm frightened!"

He shook her slightly, smiling with his mouth but not with his eyes. "I'm running no risk. We know the time-disk works. We've had it back much further into the past than the time I'm aiming for. Neither Jennison nor I have ever got out of it—that's all. But there was nothing to stop us stepping out into the world of any past time—nothing, that is, but Jennison's superstitious fear of changing the course of events." His lips twisted. "As if they couldn't be better."

"But it's such a terrible period you're going back to. Those newspapers in the library—murder and shooting on nearly every page."

Mark gave a confident laugh. He took the revolver out of his pocket and weighed it in his hand, sighting at a point on the wall.

"Put that away!" Her voice was high and shaky. "It's barbaric."

"Probably not one chance in a thousand I'll have to use it. But I feel safer with it. Listen! I'll be in that period only one-

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hundred minutes. Just long enough to find John, deliver the photographs, and come away."

"What if he thinks they're faked?"

"He won't. Why d'you think I picked him, out of all my ancestors?"

"Because you've got his diary. He's the only one you know where to find."

"Well—partly that, yes. But more than that, because he had brains. He was an inventor. Not a great inventor, perhaps, but there are still a couple of electronic gadgets named after him."

Ria was silent, troubled. "But—you don't know what effect you'll have on *today*, giving him the plans of inventions before their time."

Mark flung his arms wide. "It's not long before their time. Damn it, it doesn't matter whether the antigravity field is invented by Cranston in 1996 or by my great-great-grandfather in about 1959 or '60. The same with all the other things." He laughed. "He'll know how to use the stuff. He was bright. Remember, he left quite a fortune—not that any of it came down to me. But this should give him the greatest fortune any man ever had—and there should be plenty left over for me, and for you. If there isn't, I suppose I'll just have to go back again, but we'll worry about that when we come to it."

He picked up the brief case again. "There's no reason why it shouldn't work. It's *got* to work. With enough money, I could be running the whole project, not Jennison." Suddenly he grinned. "See you later. I've got a long way to go. A hundred and thirty-seven years each way."

"For heaven's sake be careful," she called after him as he strode out.

He landed his air-car close to the laboratory, walked along in the dark, and let himself in with his key. He didn't turn any lights on until he was in the windowless inner room with the time-disk.

It was partly an aircraft, because it would be necessary at times to maneuver in space to some extent before making a landing in a past period of time. It had a circular cabin with round port-holes, surrounded by a broad circular flange which contained the time-distortion coils. Beneath were three rounded projections of the antigravity thrust-units which lifted it, similar to those used on an air-car. He pressed the button which slid back the laboratory roof, exposing the dark, star-flecked sky.

He entered the cabin of the disk, and carefully set the dials to the date on which his great-great-grandfather's diary had recorded a quiet, uninterrupted evening at his apartment—March 13, 1958. One hundred and thirty-seven years ago. He started the generators. On the

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antigrav drive, he lifted a thousand, three-thousand, ten-thousand feet into the night air, and then he hovered. He set the emergence-point at 2120 hours, and sent the current flowing through the coils. He threw in the activating switch, and the tremendous force of the temporal-distortion field flowed through him. . . .

A different landscape was suddenly below him. Still a city, but with dim spots of light along narrow streets. He compared it with the photograph of the old map he had copied in the library, and sent the disk skimming horizontally across the river. He wondered if anyone below had noticed it. It didn't matter—in those days, the newspapers often carried reports of strange things seen in the sky.

He picked up his co-ordinates, and lowered the disk on its antigravs into a vacant lot near a gaunt iron structure that appeared to be some form of elevated railroad. He took his brief case, set the disk's controls to return on automatic to the laboratory at Time Zero plus ten seconds, then to return exactly to this point at 2300 hours—one hundred minutes from *now*. He got out quickly, dropping to the bare ground and moving away as the disk flicked out of sight.

He looked about him. A train thundered along the elevated railroad, its long line of yellow-lit windows showing strangely attired people within. He watched it out of sight, then walked rapidly towards the street, passing through a gap in a line of straggling bushes.

He looked tensely in each direction, his mind filled with mental pictures of the newspaper headlines in the ancient papers of the period—a man shot in the street, another held up and robbed somewhere else. As Ria had said, it was a barbaric time.

He began to run along the asphalt sidewalk.

"Hey!" called a voice nearby. From the corner of his eye, he saw a figure emerge from the shadows where the bushes grew thickly.

He whirled. The other man was about his own build, similarly dressed, and in his hand was a revolver! Mark's own gun seemed to leap into his hand. He hadn't time to feel fear. The other man moved forward, his face shadowed, menacing.

Mark's gun spat orange flame into the gloom, once, twice. The other man spun with the impact of the bullets against chest and shoulder, sprawling to the ground. His hands clawed forward to the edge of the asphalt.

Mark ran, flashing beneath a street-lamp and pounding on into the dark. There was the taste of metal in his mouth. He wished the incident hadn't happened, but he couldn't afford complications. If he were held, questioned, he could miss the return of the time-disk. He would

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be trapped in this hideous, violent world of the past for the rest of his life.

He was still running when he reached the street where his great-great-grandfather, John Fallon, had his apartment. Not ten minutes after leaving the disk, he found the right building.

He was glad of the chance to regain some of his breath as he scanned the names on the mailboxes. There it was—J. A. Fallon, Apartment 3B. He pressed the button beneath it, and a moment later a buzzer shrilled. He opened the inner door, and walked up to the third floor, the muscles at the backs of his legs trembling slightly from the unaccustomed effort of climbing stairs.

The door of apartment 3B was open, with yellowish light flooding out into the passage, and a dark, slim man of medium height stood looking at him. He was quite young. It gave Mark a feeling of incongruity, somehow, to find his great-great-grandfather a young man—but of course, in this year he would be only twenty-two.

"John Fallon?" he asked.

"That's right."

"I'm a relation of yours—Mark. We haven't met before."

The young man gripped his hand, looking at him searchingly. "Are you sure? Didnt know I had a relation called Mark. Come in, anyhow."

The room had queer, old-fashioned wooden furniture. A shaded standard-lamp threw soft yellow light near the single table. Mark sat down, and the younger man moved across to a chest-of-drawers with bottles and glasses on top of it.

"Care for a drink?"

"No, thanks. I haven't much time." Mark was aware of the fact that John was looking at his clothes, particularly at his shoes.

"Just how are we related?"

Mark hesitated, looking at his watch. 2140 hours—twenty of his hundred minutes gone already. "You might find this hard to take, at first. I'm your great-great-grandson — actually, I think it may be great-great-great-grandson. The point is, I've come back in time from the year Twenty-ninety-five. That is, from a hundred and thirty-seven years in your future."

John stared at him without speaking. Suddenly he laughed. "Okay. But I think I asked a reasonable question. Just how are we related?"

Mark frowned. "I'm serious. Look here, you keep a diary, don't you?"

"What if I do?"

Mark took the photographs from his brief case, and selected one, looking at it. "Yesterday, you wrote in that diary 'Received check from P. Stoddard, $52.00.' Today, you wrote, or will write, 'Had lunch with Mae. Phone Andrews 2:30.' Right?"

John's face was white. He took a tense step forward. "Say —what the hell *is* this?"

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Mark held up his hand. "Tomorrow, you're going to write 'Called on Andrews 11 a.m.'"

"Tomorrow? What d'you mean, *tomorrow?*"

Mark handed him the photograph of the two open pages of the diary. John took it. His eyes went wide. He walked across to a writing desk, and took out the very diary Mark had so often held in his hands—only now it was crisp and almost new, not faded, battered, patched with tape as Mark knew it. John Fallon spread it out on the table beneath the light, holding the photograph beside it, his eyes travelling from one to the other.

He looked at them for a long time, leaning shakily on the table with both hands. "But how—" He lifted his eyes to Mark's. "Look! Am I going mad?"

Mark shook his head. "Just a demonstration. I've come to help you."

John walked staggeringly across to the chest-of-drawers and poured himself a drink, the neck of the bottle rattling against the glass. He drank quickly, his dilated eyes on Mark.

"You see," said Mark, "I'm speaking the truth. I've come back a hundred and thirty-seven years to help you." He spread some of the other photographs across the table. "Since you were the most promising of my ancestors—you have quite a career ahead of you as an inventor, you know—I decided to give you some help. Not from pure altruism, I admit. You made a moderate fortune, but not enough for it to survive to my generation. If you were to make a really gigantic fortune—are you listening?"

"Go ahead."

"Here are several ways you can do it. First, these copies of articles in technical journals published in 1997, 2014, 2029—all detailed stuff on ion-drive for space-flight, antigravity fields, electron-shields—but I'll leave it to you to work out the details. There are some simpler devices here that can be real money-spinners—and to get you started, some papers from nearer your own day. These stock-market reports—one for next week, and others scattered over weeks, months, years. And a map of a uranium mine that wouldn't otherwise be discovered until 1988—there's nothing to prevent you—"

"Stop it! Stop it!" John strode to the door and threw it open. "It's impossible! It's madness! What are you? Some kind of demon? *Get out!*"

Mark lifted his hand. "Wait a minute—"

"It isn't true!" John's face was ashen. "None of this is true. I don't know what your game is, but I've a damned good mind to lock you in here and—"

Mark didn't hear the rest. Lock him in? With the disk returning at 2300 hours? He sprang to his feet.

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"Come away from that door." He drew the gun. John froze. "Close the door. Right. Now, over there."

John moved warily round the room. As he passed the chest-of-drawers he exploded into lightning movement. Mark saw a bottle flying through the air, ducked, heard its splintering crash against the wall behind his head. Then John Fallon was on him. He got his hand on the gun, and they grappled.

The lamp smashed to the floor, and the darkness closed in on them like a sack. Mark was bigger, but the younger man's frenzy multiplied his strength. As they struggled in the darkness a shot crashed with an instant of flame like a photo-flash. John's grip relaxed, and he sprawled against Mark's legs.

Mark put the gun in his pocket. He staggered against the table, the sweat stinging his eyes. He found his little pocket-lamp and switched it on.

"Lord!" He turned the sprawling figure over. The eyes stared up at him, their pupils differently dilated. John Fallon, his ancestor, was dead.

Dead. Mark stood upright. According to the diary, he had married at 35, and his first son had been born when he was 37. Yet he was dead, now, at the age of 22.

He heard voices somewhere in the building, and his immediate preservation claimed his attention. He locked the door, opened the window. An iron fire-escape zig-zagged down the back of the place. Within minutes, he was back at the vacant lot.

The man he had shot was still lying there, half-hidden by the bushes and the shadows. Two men he had killed, within less than an hour. Worst of all, he had killed his own ancestor—killed him before he had fathered any children. Theoretically, that meant— What did it mean? Did it mean he should never have been born? . . . He shivered.

He thought the disk would never arrive. He waited, waited, waited, with a chill, void horror within him.

At last, the disk was there. He sprang into it and immediately climbed on the antigravs for a thousand feet. He hovered, then threw in the switch that cut the time-distortion field. As the vast force was withdrawn, the disk snapped back into its own time.

Within minutes, the bright lights of the laboratory were blazing coldly about him again. He climbed out, his knees almost buckling beneath him. He looked around at the familiar benches. Had someone been in here? Things looked just slightly different, although he couldn't at first put his finger on the difference. But he could when he turned around to look at the new rack of shelves he had installed last week.

It wasn't there. In its place

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was a pile of packing-cases, and a strange drilling machine. The familiar drilling machine he had installed a month ago was gone from its place across the room.

What had happened? An icy, gnawing fear began within him.

He switched off the lights and the power, and let himself out, walking to where he had left his car. It was not there. He found the exact spot where he had left it, but couldn't even see the impressions it must have left in the ground.

His heart thudded heavily. He began walking. It was only a mile to his home, but it seemed to take him a long time to get there. When he reached his house, the thudding of his heart was pounding in his eardrums.

It was the same house he had left two hours ago—yet it had been painted a different color. And a complex metal trelliswork had been built at the side—trelliswork overgrown with ivy that must have been there for years. Reeling a little, he walked up the drive.

Would there be any change in Ria? He tried to open the door, but his key didn't seem to fit. As he was struggling with it, a light flashed on above him and the door opened. A blonde, Teutonic-looking woman he had never seen before peered out at him.

"What is it?" she demanded.

"Er—is Mrs. Fallon in?"

"No one of that name about here."

"Sorry. I—ah—just moved into the neighborhood. Must have the wrong house."

He could almost feel the woman's eyes on him as he went away. She didn't shut the door until he had turned the corner of the street.

He walked along two blocks to the air-car park. At least, this looked familiar. There seemed to be no change in anything, although when he looked where he usually kept his car he saw another one in its place. Tom Bryan sat in his little office, the light pouring down on his half-bald scalp. Mark walked up and pushed in through the door.

"Hi, Tom."

A blank, questioning gaze met him—hesitant, explorative. "Hi. Have we met?"

"You remember me, Tom. Mark—Mark Fallon."

Tom's forehead corrugated. "Can't recall. But I see a lot of people. What can I do for you, Mr. Farron?"

"Is my bus here? A blue and white '93 Kesarc." He hesitated as the other man's frown deepened. "I—er—thought my wife might have left it here."

"Sorry, Mr. Farron. Try Gianetti's three blocks down."

Mark was glad to get away. The blood thundered in his temples. God, this was his world, his town—the place where he had lived for years. Yet it was as if he'd never been here.

He found a public visiphone booth, and flicked through the

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directory. His name wasn't in it. Neither was his brother's. He turned to another directory covering the area across the river, where his parents lived. The print blurred and danced on the pages, and he lit a cigarette with shaking hands before he tried to look for his father's name. When he didn't find it, he stared stupidly up and down the columns of names that seemed to pulse in and out of focus with the thud, thud, thud, thud of the blood in his skull.

Then in this world which he, himself, had changed, he had never lived. His father had never lived . . . He looked across the street, at the street-lamp shining on the green foliage of a tree. It was solid enough, solid and real, the street, the houses, the parked air-cars, all of it. The people he had known, his neighbors, his school-friends, even Ria—wherever she was—they were all living in it, yet to them he was a stranger, a phantom from nowhere. . . .

His school-friends! Peter Barkly—he was the fellow he knew better than any, from school-days up through the University to adult life. He turned again to the directory.

Barkly, Peter E. He dialed the number, pushing the door of the booth open with his foot so that the cool air reached his face. The sweat was like ice on his forehead.

Barkly's face appeared on the screen, expectant, unrecognizing.

"Peter, I'm Mark Fallon. Remember me at school?"

"Can't say I place you. You must have changed a lot."

"Remember, I used to go around with a girl called Ria Walton."

"Ria Walton? Oh, sure. I remember her well. She's married now, you know. Married a guy called Wilson, or Williams, or something like that. Lives out on the West Coast. Got a couple of fine kids—we called on them last June. . . ."

Mark walked out of the booth and strode aimlessly down the street. He kept on walking like a machine. Occasionally people passed him, one of them a neighbor, but the man glanced at him without a spark of recognition. It would be the same wherever he went—no one would ever know him. They couldn't know him. He had never lived in their world.

Suddenly he stopped in mid-stride. There was a way out!

Fool, that he hadn't thought of it at once. He had gone back 137 years, landing the time-disk at his chosen co-ordinates at 2120 hours, March 13, 1958. Within an hour of that point in time, he had killed his ancestor, changing the following 137 years in such a way that neither he nor his direct ancestors had been born. But why not go back in the disk again, and stop the change from happening?

He was running towards the laboratory before the thought

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was fully formed. It was ridiculously simple. All he had to do was go back to that same evening in 1958, *just before* his first moment of arrival, and stop himself from seeing his great-great-grandfather.

He was breathing heavily as he re-entered the time-disk, but there was intense, profound hope within him.

To hell with the fortune! Once you started to change things in the past, you had no idea where the different chains of cause and effect would lead. He'd stop himself, explain things to himself, then return. The world would remain as he had known it.

He set the co-ordinates for the same point in space, and the time of emergence at 2100 hours. He checked everything meticulously, double-checked it, triple-checked it. He sent the power humming through the coils. Aloft, he threw the switch and felt again the vast surge of power of the time-distortion field. . . .

He maneuvered the disk over the same dark, vacant lot where he had landed before—or, rather, where he was to make his first landing in twenty minutes' time. 2100 hours. He set the return emergence for 2150 hours, then sprang out, running across towards the dark tangle of bushes as the disk flicked out of sight.

He kept looking at his watch. The night seemed the same as when he had been here before. He looked about, feeling the gun in his pocket. He must keep a lookout for the man who had sprung at him from the bushes the first time. He could see no one about.

A train thundered along the elevated railroad behind the lot. He watched its yellow-lit windows racing past, and then, from the corner of his eye, he saw something else.

The disk—just flicking out of sight as he looked at it. It had come and gone while he had been intent on his search of the bushes. At that rate—

He heard running footsteps. A man raced past him through the gloom, head down. It looked like— *It was!*

"Hey!" he shouted. Involuntarily, he jumped forward.

The figure whirled, and as the light fell on it Mark found himself looking into his own face. He hardly recognized the fear, the tense determination in it. The gun spat orange flame into the gloom, once, twice.

He tried to scream as the bullets smashed like hammer-blows into his chest and shoulder, spinning him to the ground. His hands clawed to the edge of the asphalt.

With blurring, fading vision he saw the running figure flash beneath the street-lamp and pound on into the dark.

Then he could see nothing . . . The blood was hot and salt in his mouth. . . .

THE END

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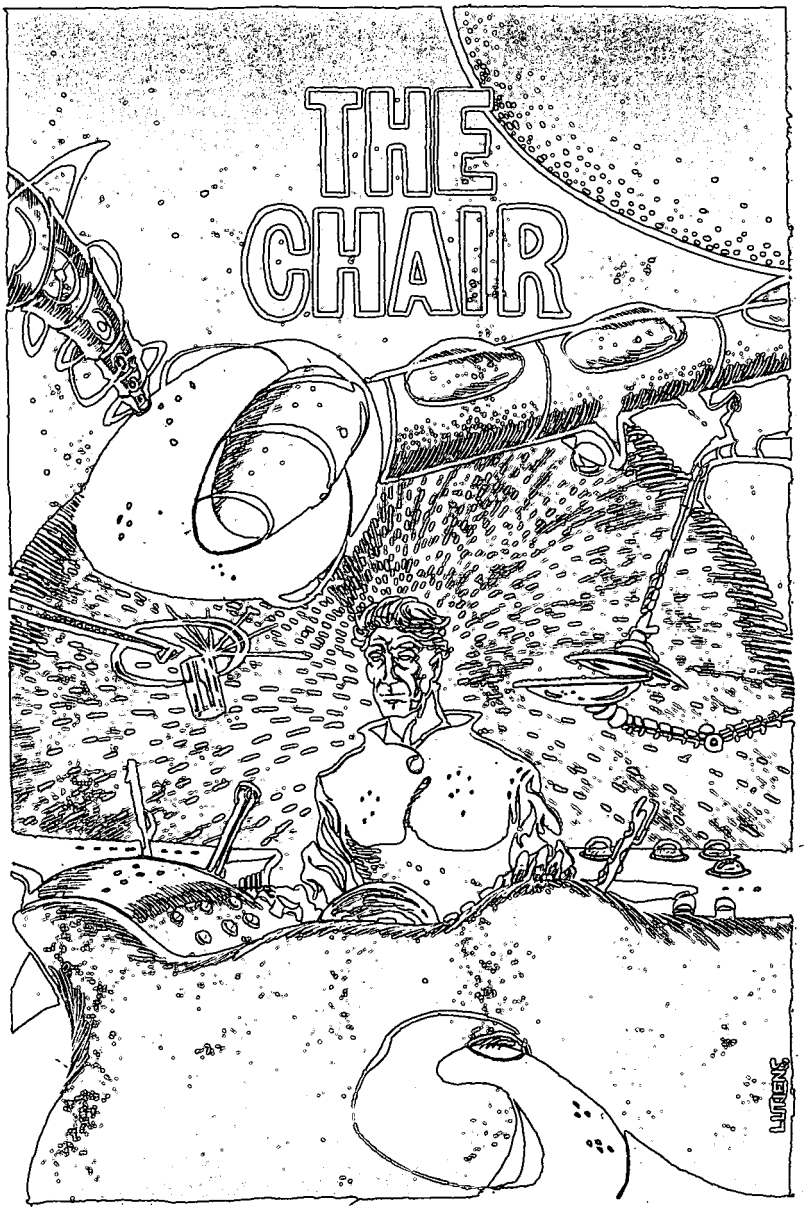

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By O. H. LESLIE

Illustrated by LUTJENS

First, man squatted on a chunk of rock. Then it grew legs, arms, a back, rockers, cushions, antimacassars, footrests, headrests, vibrators . . . Read this story at your peril: You may never sit down again!

TROXELL began walking around the office with this sickly, secretive smile on his face and succeeded in puzzling, irritating, and even angering a good ninety percent of his fellow employees. Among which I numbered myself. For no particular reason, Troxell and I shared a table at the company cafeteria, even if he was in Production and I was in Accounting, we had one of those surface friendships that clicked on and off with the office lights. When I asked him, point-blank, straight to his sickly smiling face, he merely shrugged and bent over his food tray, looking all the more beatific for having been asked.

Then one day, without prompting, he looked at me with luminous eyes and told me.

"I'm buying a Chair," he said.

My teeth embedded themselves in the sandwich I was eating. Troxell couldn't have surprised me more by announcing his candidacy for president. After all, I processed his salary check myself, I knew his financial peer group like it was my own. As a matter of fact, it was my own.

"Are you out of your mind?" I said. "How the hell can you afford a Chair? You can't get a basic model for less than twenty grand!"

"Eleanor's father died," Troxell said smugly. "The old fraud, living on that government pension all these years, socksful of money all over that filthy house of his. Eleanor said I could have anything I wanted, and I didn't have to think twice, did I?"

"No," I said, swallowing sandwich and envy. So that's why you've been walking around like a Cheshire cat."

He buttered a roll languidly. I could have killed him.

"I've got an appointment at the Chair Company at one o'clock, to see a Mr. Kerslake. Want to come along?"

"No," I said. "Why should I torture myself?"

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But I went along. I was curious. I felt like a kid pressing his nose against the windowglass of a toy store.

THE showroom of the Chair Company was on Fifth Avenue. It wasn't anything special. The receptionist was a nice glossy example of the breed, and I used my privilege as a bachelor to exchange some amorous banter. Troxell just sat on the waiting room bench and fidgeted nervously.

Then Kerslake came out, a solid pink cylinder of a man, with too much color in his plump cheeks. He took us into a long, narrow room, wheeled up a slide machine, and gave us the sales pitch.

Click. Picture of ancient seated god, pre-Columbian. "From the earliest days of Man," Kerslake said, "it was clear that the posture most natural to the human frame, constitution, and articulation of the joints, was the seated position. Combining the maximum of comfort with the ability to perform a wide variety of human activities, the seated posture brought into being the most common and most useful article of domestic furniture."

Click.

"The chair. Functional, decorative, basic. From ancient Egypt to the Renaissance, it underwent a series of simple refinements which altered the basic structure very little. In fact, it can be stated that between Chippendale," Click. "and Hepplewhite," Click. "the chair has retained its main characteristics to the present day."

Click. Our Founder, old gent with beard.

"Until, of course, Andrew Franklin Fortescue patented the first Comfort-Customed Chair back in 1987, and began the organization known today as the Chair Company."

I yawned, and Mr. Kerslake frowned upon me.

"Today's Chair, of course, is a far cry from the crude Comfort-Customed model of those bygone days. Nevertheless, today's Chair still retains the basic feature which made the Chair the greatest boon to man's comfort since Prometheus brought us the gift of Fire."

Click.

"Here is the Fitting Room of the Chair Company, where each customer literally 'creates' the Chair in his own image. The apparatus you see here contains over one hundred thousand finely-coiled springs, and registers over a *million* electronic impulses in the computing mechanism. The computer records and stores this information, ready for use during the modeling process. The basic Chair is then created out of special plastics materials

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in the Molding Laboratory, and accessories are added as the customer desires."

Click.

"Here is the basic model Chair, unaccessorized. Its raw configuration, of course, gives no hint of the intricate sculpturing which provides a resting place for every millimeter of flesh, muscle and bone, which provides a degree of comfort hitherto unknown to mortal man. In truth, there are insufficient adjectives to describe the comfort, created for the individual alone. There are no 'second-hand' Chairs."

A chuckle.

PERHAPS you are asking yourself, what happens to the comfort of my Chair when *I* change? When my weight or physical measurements increase or decrease? The answer is simple. Not only will the Chair compensate for minor changes in physique, but the written guarantee of the Chair Company calls for once-a-year adjustment of the Chair, free of charge."

Click.

"Accessories, of course, are available," Kerslake said casually.

"A built-in multiphonic music system." Click. "Tridimensional television." Click. "Refrigerator and drink dispenser, both hard and soft." Click. "Massager, musculatory and circulatory." Click. "Automatic Sanitized Deodorized Chem-o-Magic Plumbing Unit." Cough. "And other accessories.

"In the most advanced Chair models, by special order, the new Food-o-Mat System is available, providing a complete healthful five-meal-a-day diet. The Food-o-Mat, like all other Chair accessories, is serviced and maintained by the Chair Company on a regular basis."

"And the cost?" I murmured.

"The cost," Kerslake said, snapping his mouth shut like a tiny purse, "is high. As you know, the basic model Chair is nineteen thousand five hundred dollars F.O.B. But let me remind you that Mr. Fortescue's original model sold to the public at *forty-five* thousand dollars. Within the next five to ten years, we foresee the possibility of a selling price that will make the Chair available to every home."

Troxell was licking his under lip like a drooling dog.

"I can't wait. I want that motherlovin' comfort now. From what I hear about it—"

"You won't be disappointed," the salseman said. "No one has ever been disappointed in a Chair."

"When can I come in for a fitting?" Troxell asked.

He was breathing heavily. I felt a little embarrassed.

"When?" Troxell said.

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TROXELL'S midyear vacation was scheduled for August. He sent a request to the front office to move the date up two months, to June 15. He confided in me that the date coincided with the promised delivery of his chair.

When he returned from his vacation, he didn't look so beatific any more. As a matter of fact, he looked strained around the eyes and had a peculiar stiff-legged walk. I cornered him in the cafeteria and said:

"Well, how about it? How's the Chair?"

"'Sokay," he said evasively. "How's everything with you, pal, how's the rat race?"

"The hell with that," I said. "Tell me about that Chair of yours. How's it feel to sit in the lap of twenty thousand bucks?"

He smiled wanly. "I like it," he said. "Yes, I like it fine."

I couldn't decide whether his lukewarm response was the result of disappointment or simple reticence. He just wouldn't talk about the Chair, no matter how I pumped him, and the only other reference I heard him make was vague and mysterious and maybe never even happened except in my imagination. It was early in the morning. We were walking down the lobby together, heading for our respective galley oars, when he shut his eyes and mumbled to himself. "Oh, Chair, Chair," is what it sounded like, but I couldn't be sure, not absolutely sure.

Troxell's first long absence from the job came shortly after that. He was out for a month, claiming a virus. When he came back, looking appropriately drawn and pale, he promptly had the relapse everyone warned him against. He never returned. I did not know whether he was canned, or whether he decided that Eleanor's inheritance was adequate enough to support a life of leisure; all I saw was the official notification from the front office to discontinue him on the payroll roster. Maybe Troxell and I had not been exceptionally close buddies, but there was still something sad in the process of wiping him out of the payroll machine.

IT was two months later when this wet-eyed, wobbly-mouthed woman came clawing at me in the Lackaday Saloon across the street from the office. I was plenty annoyed at first, not knowing who she was, resenting her unattractive intrusion into my after-hours social life. The Lackaday was piled up four deep at the bar, and I was progressing nicely with the blonde goddess of accounts receivable, when the woman's cracked nails raked my coat sleeve and the wobbling red line of her mouth spoke my name in a voice that grated and quavered

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and demanded my attention if not my sympathy. I found a corner of comparative quiet and let her have her say.

"I'm sorry," she mumbled. "I tried to reach you earlier, they told me at the office you might be here . . ."

"What is it?" I said. "What do you want?"

"I'm Eleanor Troxell," she said.

Two fat little tears slid down unpowdered cheeks.

I bought her coffee at the diner around the block. She went to the ladies room first and came out looking more composed if not prettier.

"Harvey talked about you a lot," she said. "About what good friends you were."

So Troxell and I were good friends. It was news to me, but I didn't show any surprise.

"I don't know what to do any more," she said. "Harvey doesn't have any family, just a sister in Des Moines, and I don't know where to turn."

"Is Harvey sick, Mrs. Troxell?"

"No, not sick. Not the way you mean. It's that Chair, that damned Chair!"

Her eyes slid around guiltily, as if she was afraid of being overheard, caught in an expression of blasphemy, disloyalty, or obscenity.

"He's never out of it." she whispered at me. "He hasn't left it for weeks, Mr. Lundy. He's spent practically every cent my father left me on accessories, just so he needn't leave it for a minute—"

"You must be exaggerating," I said. "Not for a minute?" The picture that conjured up was almost amusing.

"I tell you never. He sleeps in it, eats in it. He bought that damned Chem-o-Magic Plumbing Unit." She blushed darkly. "The Chair massages him, bathes him, does everything but feed him. That comes next. They've got some kind of automatic feeding device—"

"The Food-o-Mat," I said.

"The Chair's cost us close to fifty thousand already; installation of the Food-o-Mat will be another ten thousand, plus fifteen hundred a year maintenance—" She raised her moist eyes. "But it's not just the money, Mr. Lundy. He's not a husband any more, he's not even a man! He's a vegetable—"

I didn't know what she expected of me. Advice, financial assistance? The first was easier.

"Well, I wouldn't get too upset about it, Mrs. Troxell. After all, the Chair's like a new toy, you can't blame Harv for wanting to get the most out of it. You'll see, he'll come to his senses after a while."

"He won't ever leave that chair, Mr. Lundy. It's his whole

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life now. I'm sure he'd give me up first . . ."

She was pumping tears again. I watched her cry without being moved. Somehow, the recollection of Troxell's self-satisfied beatific expression prevented me from feeling sorry for his wife. But I said:

"All right, Mrs. Troxell, tell you what. Suppose I go to see Harvey this weekend and talk to him? I don't know if it'll do any good, but I can try."

She clamped her hand over mine, and her red mouth wobbled with lugubrious gratitude.

INHERITANCE or not, the Troxells lived in an assembly-line suburb and their quarter-acre lot was no greener than anybody else's. I walked up the driveway to the front door, grumbling to myself at the sacrifice of my Saturday morning, and rang the bell. Mrs. Troxell answered, in a yellow dress and pert little apron, looking sunny of disposition and smelling like a cookie jar.

"I've been baking," she said cheerily. "Harvey's in the library. He'll be so glad to see you."

I followed her inside. She bounced and wiggled like all the Happy Housewives in the world, determined to make things normal.

There weren't any books in the Troxell library. There was only Harvey Troxell, and his Chair.

I thought I had been prepared for the sight by my visit to the Chair Company, but I saw now that the difference between an accessorized and non-accessorized Chair was the difference between a rowboat and a battle-cruiser. The seat itself, a gigantic, amorphous marshmallow of pouchy black plastic, was overwhelmed by a superstructure of blocky mechanical devices studded with levers, buttons, rheostats, fuses, gears, wheels, gauges and switches. My old buddy Troxell, facing a winking instrument panel, looked like a man being eaten alive by a computer, and enjoying the experience.

"Stanley!" he said, smiling broadly but not offering his hand. (His hands, as a matter of fact, were sunk into twin cylinders of some kind, and when they emerged later, I saw that the nails had been nicely manicured.) "How've you been, pal, how's the old rat race?"

"Fine," I said feebly, "just fine. Well, you've really got yourself a Chair, haven't you, Harv?"

He glowed like a saint over an altar.

"It's a way of life," he said kiddingly, but I knew he meant it. "I thought it would just be comfortable. But it's more than that, Stanley, if you only knew."

"Fat chance," I grinned. "Your wife told me the cost of some of these gizmos."

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"I don't care about money. You think I care about money now?" He said it almost pityingly. "Let me tell you, Stanley. If there's one thing a Chair does for you, it knocks some sense into your head. You get a sense of proportion, you find out what life's really all about."

"Comeon," I chuckled. "You can't exactly call that living, can you? Spending your whole life in a Chair?"

"Yes, Stanley," he said gravely, "It's the only living that's worth anything. What good does it do you, all that running around, prodded by ambition, chasing the dollars? Why do you do it, Stanley? For comfort, of course, sheer creature comfort. And that's what the Chair gives you, pal. Don't you see? It's what everybody's after, in the long run. And here it is." One hand came out of the cylinder and patted the Chair fondly. Fondly? No, lovingly.

"Okay," I said. "If that's what you want, okay. It's just not my idea of living, that's all."

"You don't know," Troxell said sadly. "You just don't know, Stanley. If I want anything, the Chair provides it. Massage, rubdown, needle shower, whirlpool bath, toenail clipping, haircut, shave. It'll give me exercises equivalent to five sets of tennis or a cross-country run. It'll scratch my back, rub my neck, shampoo my hair, or sing me to sleep. It'll read to me, teach me, and next week, when they install that Food-o-Mat, it'll even feed me . . ."

"It's treating you like an invalid, Harvey—"

TROXELL began to laugh. "Oh, that's funny, Stanley, you don't know how funny that is. That's just what Eleanor's been saying, exactly that. So just to shut her stupid mouth I had the doctor in a couple of weeks ago. And you know what he said? I'm in perfect health, Stanley, better than I've ever been. The Chair takes care of me. I'll never catch colds or other infectious diseases. I'll never lack for exercise, I'll always be properly fed. The Chair people are even working on a gadget called the CDI, Continual Diagnostic Instrument. Physical checkups every second, Stanley, how's that for watching your health, huh, how's that?"

"But what about the money, Harv? That inheritance isn't going to last forever. You don't expect your wife to work, do you, just to keep you in the Chair?"

"I don't need money," he said flatly.

"Everybody needs money, Harv. You've got to live."

"I *am* living. The Chair is taking care of me. After we pay for the Food-o-Mat there won't be

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many other expenses, just a couple of thousand maintenance per year and the income on the estate will provide that easily. I don't see what Eleanor's squawking about."

I came closer. For the first time, I got a good look at Troxell, and it wasn't pleasant. Not that he looked unhealthy. His skin was tanned, his eyes clear, and there wasn't a line in his face. It was that very perfection that was so unearthly, that gave Troxell the look of death's first cousin. His eyes weren't just clear, they were empty, the light that glowed in them had no more life than the winking lights on the Chair's instrument panel. He had the slack, open mouth of the infant awaiting suck, and when his hands came out of the manicurer, they dangled from the ends of his wrists like mechanical appendages, useful only for pushing levers and pressing buttons and turning dials.

"Harvey," I said softly. "Harvey, what about your wife? You may be happy as a clam, but what about her?"

He didn't answer for a moment. Then he smiled.

"Poor Eleanor," he said. "I told her to get a Chair but she wouldn't listen. She needs one more than I do, she's a very unstable person."

"That's not what I meant, Harvey. Eleanor's a woman and you're her husband. There are things in life . . ."

He didn't seem to be listening. His hand snaked out and touched something on the control board. "Excuse me, Stanley," he said. "It's time for my . . ."

I didn't hear the rest of his sentence. By the time he concluded it, some kind of double-headed contraption came out of the back of his Chair and lowered itself onto his shoulders. It began a complicated back and forth movement, massaging neck and shoulder muscles. The look on Troxell's face was so nakedly ecstatic that I had to leave, if only in the interests of modesty.

FOUR weeks later, Eleanor Troxell committed suicide. There was some speculation that the attempt had meant to include her husband Harvey as well, since she had employed an open gas line. Troxell's Chair, however, was credited with saving his life. Upon receiving the first warning signal in its Danger Detection unit, the Chair encased Harvey in a clear plastic shell and provided oxygen until such a time as help arrived. The publicity that this episode received probably sold ten thousand more Chairs.

I wrote to Troxell, a brief note of sympathy, and he wrote back. He assured me that he was perfectly all right, that his needs

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were being completely taken care of by the Chair and the Chair Company.

One day, Ralph Seligman of Public Relations had lunch with me and we got on the subject of Troxell. I said that I sure didn't think much of those damned Chairs. Seligman's eyebrows arched and he said:: "Really? You're the first guy I ever heard knock them. I thought they were supposed to be sancrosanct, like Cadillacs and Rolls-Royces and Chris Crafts?"

"If you saw what I saw," I said, "you'd think the Chair was practically a menace."

"Now that's an interesting viewpoint," Seligman said. "Why don't you write me a little article for the Blotter?"

The Blotter was the company house organ that Seligman edited. Its circulation was only about three thousand, in our five branch offices, but I was flattered anyway.

"Okay," I said. "Sure."

I wrote the article, and it was called: *"The Chair: Boon or Boondoggle?"* I have to admit that Seligman gave me the title, he had a flair for that kind of thing. It began:

When the Chair was considered to be only a rich man's plaything, there was little concern about its social or economic effects upon our society. But now that the Chair Company, by dint of its own merchandising and engineering success, has been bringing the price of the Chair within reach of broad classes of people, the question must eventually rise: "Will the Chair deprive society of energy and initiative, sacrificing some of our most talented individuals to the lap of luxury?"

FRANKLY, I thought it was pretty good stuff, and I waited rather anxiously to see it appear in the Blotter. When it did, there was a surprising reaction from the front office. It seems that several of our top executives were either Chair owners or heavy investors in the Company, and they weren't very happy about the article. Seligman got called on the carpet, but nobody bothered me. Nobody, that is, until I got a message to phone Mr. Kerslake.

At first, I didn't connect Kerslake's interest in me with the Blotter article; I thought he remembered my visit to the Company with Troxell, and was following up with a sales pitch. But when he asked me to stop into his office, I saw the house organ on his desk.

"Sit down," he said pleasantly. "How is your friend, Mr. Troxell?"

"You probably know better than I do," I said. The words came out sounding belligerent, but I didn't mean them that way.

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Kerslake's pink face went a shade pinker.

"We read your article with some interest," he said. "The Chair Company is always interested in public opinion, and we especially appreciate constructive criticsm." He smiled. "However, we believe some of the points you raised in your article are the result of ignorance or misinformation."

"Okay," I said bridling a little, "maybe that's so. But it's only a little company magazine."

"Yes, of course. Still, we like to keep the facts straight, Mr. Lundy, wherever they appear. Now, these statements you make about employment, about whether Chair-owners show a willingness to earn a living or pursue a career. We have some figures here . . ."

"Look, Mr. Kerslake, I didn't say I was an expert on the subject—"

"You wrote the article, didn't you?" he said brusquely. "Do you deny that you meant what you said?"

"I wrote it," I grumbled, "but that doesn't mean I have to listen to a rebuttal, does it?"

Kerslake breathed hard. "You could at least do us the courtesy of—"

"Look, it just happens that I have a very important date this evening, so if you don't mind—"

I stood up. Kerslake jumped to his feet, too, and his cheeks were like traffic lights.

"Mr. Lundy, please—"

His eyes went cloudy. He exhaled breath as if a hand had slapped him hard on the back, and then he tried to drag the air back into his lungs. His color went from scarlet to bruise-purple, and he tottered against the desk.

"Are you all right?" I said. "Are you sick?"

If the desk hadn't broken his fall he would have slammed face-first to the carpet. I knew it was a seizure of some sort, but I did not know what to do about it. The truth was, I felt guilty, as if the anger I had incited in him was responsible for this. I bent over him, heard his forced, fitful breathing, and I shouted out for help. Nobody heard me, so I went to the door and yelled for his secretary. She wasn't there. The whole damned floor seemed deserted.

I WENT running down the corridor, flinging open office doors and finding nothing but unoccupied rooms. There were double doors at the end of the hallway, probably leading to some kind of conference room, and when I burst them open I saw where everybody had gone. There was an executive meeting in progress, and a dozen heads turned in my direction, a dozen faces register-

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ing surprise and shock and another emotion I hadn't time to define.

"I'm sorry," I said quickly, "I was looking for help, for Mr. Kerslake—"

There was only one man standing in that room beside me, and when we looked at each other his dumbfounded expression must have reflected in my own face. He turned away hurriedly, but not soon enough to erase the split-second image he left in my brain, an image that had been indelibly impressed in the collective mind of my generation. I was so startled by that image that, involuntarily, I gave it a name.

"Houylins!"

The room was filled with what sounded like a single angry shout, and behind me, the double doors were slammed, bolted, and barricaded by executive sentinels. In the space of a few seconds, my outburst had transformed a quiet conference room into an explosive bedlam. In the next moment, the man who had been standing at the head of the table was gone and a substitute chairman, silver-haired, spectacled, anonymous, had taken his place.

"Young man," he said indignantly, "this is a private meeting, and you have no right—"

"That was Houylins!" I said, searching the fleshy, glowering faces that surrounded me. "For God's sake, didn't you see who it was?"

"Are you insane?" the silver-haired one said. "This is a private corporation, not a political organization. Now if you won't tell us why you're here, we'll be forced to—"

"I don't give a damn about your corporation," I said angrily. "A man's dying out there. Your Mr. Kerslake's just had a stroke or something—"

"Kerslake?"

He gave an order, and the doors were opened behind me. Half a dozen of them flooded into the hallway, carrying me with them. I showed them to Kerslake's office, and they found him just as I said, slumped over the desk and barely breathing, his skin the color of pumice and his eyes filmy with a vision of approaching eternity. They made such a fuss over him that I decided the time was ripe to take my departure. I slipped out of the office unnoticed and went down the corridor until I found the fire stairs. I walked down one flight, and caught the elevator on the floor below. It was a relief to be out on the street.

I ASKED Seligman to have a drink with me that night.

"Houylins?" he chuckled. "This isn't the only drink you've had today, Stanley."

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"I know it sounds crazy," I admitted. "He's supposed to be dead, but a lot of people don't think so. They think he's alive someplace, in South America."

"But in a business meeting? For a would-be world dictator, that's a funny place to be, isn't it?"

"Maybe not," I said. "Maybe it's a good place for a guy like him. If it's him."

"How do you mean?"

"Houylins and his gang tried a takeover with atomic weapons and failed. So maybe they're trying a different approach, Ralph, with a different kind of weapon. The Chair."

Seligman laughed. "Come on, Stanley, quit the kidding. Okay, so the Chair put a few rich old guys out of commission. You think Houylins can get us all in Chairs? Conquer us all with luxury and indulgence?"

"Why not, Ralph, huh? God knows how many millions of Chairs they've sold already. God knows how many more they'll sell. And once people get in them, they don't want to leave, not for anything . . ."

"Okay, okay," Seligman grinned. "What do you want to do, write another article for the Blotter? Sorry, pal, front office wouldn't let me print it."

"I'll write an article, all right. Only it'll be for the public, Ralph, that's what I have to do. Maybe I'm wrong about this whole thing, but maybe I'm not. And if I'm not—if it's really Houylins behind this—shouldn't we start *warning* people?"

I WORKED on the article that night. I brought in the first draft the next morning, but before I had a chance to give it to Sleigman for his comments, I got a telephone call from a man named Gildhampton at the Chair Company.

"Mr. Lundy? I'm calling for George Kerslake of the Sales Department. I just wanted you to know how grateful Mr. Kerslake is for your prompt action the other day."

"How is he?" I said. "Mr. Kerslake?"

"He's going to be perfectly fine, thanks to you. I really can't express how grateful the Company feels. Mr. Kerslake isn't merely one of our best salesmen, he's also one of the best-liked men in the organization."

"Well, I'm glad I could help," I said uncomfortably. "But I really didn't do very much."

"That's not what we think, Mr. Lundy, and I just wanted you to know that our gratitude will be tangibly expressed within a day or so."

I gave the article to Seligman, but I didn't tell him about the call from Gildhampton. He looked at my scrawling handwriting and

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laughed. "If you're going to be a crusading journalist, Stanley, you'll really have to learn how to type."

The next day, I received a letter from the Chair Company. It read:

Dear Mr. Lundy:

In recognition of your valuable service to the Chair Company, Mr. Richard Starkmyer, our President, has authorized the Eastern Sales Division to present you with the enclosed Unlimited Credit Certificate.

Present this certificate to any Chair Company office, and it will be immediately honored, enabling you to obtain, free of all purchasing, installation, and maintenance charges, a basic model Chair and all accessories of your choice.

It gives me great pleasure to present this token of our appreciation and regard.

Sincerely yours,
Martin Gildhampton, V.P.

Well, it was a pretty flabbergasting form of gratitude, I had to admit that. After my initial excitement had died down, I decided that it was undoubtedly some kind of bribe, and that's what I reported to Seligman.

"Why, it's practically an admission of guilt," I said. "Don't you think so, Ralph? They know I saw Houylins in that meeting, and that's why they want me to have a Chair."

"Maybe so," Seligman said, covering an amused smile with two fingers. "Tell you what I'd do, Stanley. I'd give their lousy old bribe away. And just to show you what a pal I am, I'll volunteer to take that certificate off your hands."

"Oh, don't worry," I said. "I'll take their damned Chair, all right. Only I won't be like Troxell, not me. It's not going to run *my* life for me."

"What about the article?" Seligman said. "Want me to go on correcting it?"

"Let's hold it up for a few days," I said. "Until I find out what they're up to."

I WENT for a chair-fitting the following week. It was a remarkably simple process. I just sat in the electronic lap of that machine of theirs for about fifteen minutes while its computer recorded the intimate details of my physique. Then I went to the accessory division and had a look at what was currently available. I passed up the really decadent stuff like the backscratcher and the manicure and the foot-massager and the automatic toilet and such and settled for simple common sense things like the TV and the multiphonic sound system and the drink dispenser. I was going to turn down the

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Food-o-Mat, too, on a purely protest basis, not wanting any damn machine to feed me like an infant. But then they pointed out the financial savings involved; after all, the Chair company would keep the Food-o-Mat stocked free of charge, and if ever I quit my job (as a matter of fact, I did quit, about three weeks after the Chair was delivered) free meals would come in mighty handy. What the hell. After I said yes to the Food-o-Mat, it seemed pretty foolish to say no to the rest of that junk, considering that I didn't have to pay for any of it. Okay, so maybe I'd never use the damn manicure or back-scratcher or foot-massager or stuff like that, but it was free, wasn't it? Anyway, I've been in the Chair about three months now, and in my opinion, Kerslake's sales pitch was understated. I mean, I've always liked my comfort before, but I never really knew what luxury meant until I climbed into this baby. Your whole body floats in a soft sweet cradle of a cloud; every joint and socket finds a place to rest; every tiny muscle relaxes. Yes, Troxell was right, it was stupid of me to laugh at him. The Chair's a way of life, there's no doubt about it. What good was it doing me, all that running around, chasing the buck? Wasn't it only comfort I was after, just sheer creature comfort? And isn't that what I have now, every minute of every hour of every day? Yes, Troxell was right and I was wrong, and those things I said to him were spoken in ignorance and false pride. A Chair isn't just foam rubber and rheostats and levers and gears. A Chair is kindness, tenderness, thoughtfulness; a Chair is selflessness and generosity; a Chair is protection and sanctuary and yes, a Chair is something more. Troxell never told me, and Gildhampton only hinted at it, but now I know that a Chair is something more. My Chair, my Chair. My darling Chair.

THE END

ON SALE IN OCTOBER FANTASTIC

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THE LAST CITIZEN

By BERTRAM CHANDLER

ILLUSTRATOR WALDMAN

Mr. Chandler, a British writer, always manages to add an extra "something" to his stories; an emotional scope that few authors achieve. He does this at times with a single phrase; a lone sentence. So we ask you—please don't read ahead of yourself in this story. Leave the last paragraph at the end.

SHE came screaming in from the black sky, her wide wings eclipsing the bright stars as she skimmed over the Polar wastes, lower, lower, until her long landing skids touched in a flurry of snow and powdered ice, touched, rebounded, and touched again. From her needle-sharp prow there was the brief, blinding flare of braking jets and she slowed abruptly to a halt. Lights came on inside her body, and the slowly settling ice crystals scintillated in the hard radiance from the ports like microscopic diamonds.

After a long while—there were tests to be made, measurements of atmospheric pressure and temperature to be taken—a door in her side opened. A dark figure, bulky in protective clothing, jumped down to the snow, followed by a second, similar figure, and a third, and a fourth. The leader carried a long staff with a pointed ferrule, drove it, with a single, decisive action, deep into the snow. There was enough wind briefly to unfurl the flag at the head of the staff, to flaunt the gaily colored silk in the beam of the searchlight that had been directed upon it from the ship. The four men stood stiffly to attention, their right hands raised to their foreheads in salute. Then, one by one, they returned to their ship. Silently the door shut behind them. The only sound was the whispering and creaking of metal that, heated almost to incandescence by the flight through the atmosphere, was now cooling.

In the cabin, Dr. John Taylor carefully uncorked the whiskey bottle, poured carefully measured doses into each of the six glasses.

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"Don't be so damned finicky, Doc!" Commander Peters shouted. "We've got here, and we're celebrating—we aren't taking medicine!"

Taylor grinned whitely at his captain—he, like the other five men was deeply tanned—and went on pouring. Then, as an afterthought, he added two millimeters to the contents of the glass that he handed to Peters.

The commander took it, handling it appreciatively.

"It's good," he said, "to be able to take a drink like a civilized human being at last. Eight months of sucking fluids out of plastic bulbs is eight months too long!"

He got to his feet. The smile slipped from his face, leaving it stern and hard and, thought the doctor, dedicated. He raised his glass.

"To the first men on Mars!" he said.

"The first men on Mars!" repeated the others.

Taylor, as did the others, gulped his whiskey.

Then— "Are we the first?" he asked quietly.

"Of course!" snapped Peters. "Who could possibly have got here before us?"

"The Russians?" suggested Wesley, the navigator, dubiously.

"If they had," said the commander, "we should have known about it . . ."

"Not necessarily," demurred Taylor. "They were almost always secretive—in their dealings with each other as well as with the outside world. We know that they were pretty close to interplanetary flight twenty years ago—and that was when their top men in the field lost their lives when the atomic-powered rocket blew up on take-off. There must have been records destroyed at the same time . . ."

Not speaking, Peters held his glass out to Taylor. Silently, the little doctor refilled it.

"To the first men on Mars," he said again. "Us."

They slept poorly that night—the weight of their bodies, even in the slight Martian gravity, was irksome after the months of free fall. They were up and about before sunrise, unloading and assembling the equipment that they had brought with them. They had already reported their safe landing to the main fleet in its orbit around Mars, now, while the others put together the light, incredibly tough tractors, the radio operator tested the set that he would use to maintain communications during the trek to the Equator.

At noon they were ready to commence their journey southwards. The two tractors, thought Doctor Taylor as he stood well away from them, taking his photographs, looked like weird insects, looked, with the bulbous, pressurized tents dwarfing the chassis beneath, like the honeypot ants he had once seen in Australia. And the ship herself, with the long skis of her landing gear, looked like some huge

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grasshopper. He wondered briefly if there were any insects on Mars, if there was any life at all apart from the vegetation of the fertile areas.

"We shall soon find out," he whispered to himself, forgetting that his helmet set was switched on.

"What was that, Doc?" Peters' voice crackled in his earphones.

"I was wondering if there was any life here, Commander," he said, a little embarrassed.

"Of course, there is," laughed Peters. "We're it! Hurry up and take your pretty pictures, Doc. We're pushing off, now."

Taylor put the camera back into its case, walked with long strides back to the tractors. He took his place in the leading vehicle, sharing the long seat in the driver's cab with the commander and the navigator.

"As near as I can determine, Captain," Wesley was saying, "we made our landing almost exactly at the Pole. The Magnetic Pole can't be far away, so our compasses are practically useless. Too much vertical force, not enough horizontal . . ."

"Steer for the sun," ordered Peters. "Keep the ship right astern. I'll keep an eye on your tracks to see that you're keeping a straight course."

"But the azimuth is changing all the time," protested Wesley.

"Steer for the sun," repeated Peters. "We'll have to put some mileage between us and the Magnetic Pole before our compasses will function. As soon as they are some good, check the error—there's bound to be variation, and maybe some deviation as well . . ."

"As you say, Commander," replied Wesley.

The note of the turbine rose an octave, the tractor lurched forward. Its motion, over the undulations of the ice cap, was not unlike that of a small craft in a seaway. The glare from the snow was painfully dazzling until Peters adjusted the polarization of the forward window of the cab.

Then they had no trouble.

So they pressed on, taking it in turns to drive. By sunset the compass was less sluggish and a halt was called while Wesley determined the compass error and meals were prepared in the pressurized tents. Two hours after through as much as over pulverized sand. Taylor had wanted an exploration, even only a brief one, of the edge of the ice cap, reasoning that life forms might exist there, but Peters was determined to make as good time as possible, to prepare the landing strip at the Equator for the other two rocket planes by the appointed date, if not before.

Through the night they drove on, the beams of their headlights more brilliant than the light of Phobos—they were still too far north for Deimos to show above their horizon. By watches they slept—or tried to sleep—in the pressurized tents, by watches they drove.

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It was at dawn that they reached the bank of the canal.

Reluctantly, Peters agreed to a halt.

He was, thought Taylor, in many ways an ideal man for his job. He was not, now that the first thrill of landing had passed, a romantic to enthuse every minute of the day about the wonder and the glory of standing and walking on the surface of another world. He was not one to allow the requirements of scientific research to get in the way of his mission, which was to proceed with all possible dispatch to the Equator and there prepare the landing strip for the other rockets. The other ships would bring in the scientists. Peters was not a scientist, neither were his men. They were naval officers, technicians. Of them all, only Taylor and Wesley, the navigator, showed any desire to stand and stare. Of them all only Taylor, by virtue of his age and rank, could hope to argue with the commander.

"We've made good time," he said. "We can afford a halt. We can try to discover whether or not these canals are artificial waterways. We can look for ruins . . ."

The commander consulted with Wesley who, using his bubble sextant, had taken observations. He told Taylor that he would be allowed two hours for his exploration. He said that he, personally, would use that two hours for sleeping, and strongly advised the others to do likewise. Wesley, however, decided to accompany the doctor.

The two men walked along the canal bank, stopping frequently to stoop to examine the scattered plants that grew there. Spherical they were, most of them, ranging in size from a marble to a basketball, with tough, green, leathery skins. Taylor felt vaguely disappointed. He should, he knew, have felt only awe at this evidence of the universality of life—but, as he put it to Wesley, it had been one helluva long way to come just to look at a lot of pumpkins . . .

"And as for the canals," he said, "as far as we can see they are no more than trickles running to the Equator from the Poles. They may look straight from Earth, or the Moon, or from a few million miles out in space —but they're far from being straight lines when you're standing beside 'em. . ."

"I was expecting a few ruined cities," said Wesley.

"So was I, frankly. Oh, I've no doubt there *will* be cities here—but only after we build 'em. Oh, well—I'll cut myself a pumpkin or two and find out if they're fit to eat when we get back to the tractors. . . ."

South they ran, and south, keeping well to time. At set periods the brief messages crackled from the surface of Mars to the orbitting fleet, at set periods the laconic replies flashed back. Taylor, reading between the lines of

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scientific colleagues' terse messages, sensed their disappointment. There were deserts a-plenty on Earth—and these deserts could and did maintain a far greater variety of life than did the Martian wastes, beings that crept and ran and jumped and flew. The sands of the Earthly deserts hid the ruins of past civilizations—but it seemed most unlikely that there had ever been a civilization on Mars. Evolution had produced the highly specialized plants, and then lost interest.

This, thought the doctor, was rather a pity, for the flesh of pumpkinlike things was fantastically rich in nutriment. It would be possible, he told the commander, for a man to live indefinitely off the country. It almost seemed, he went on, that Providence had prepared the Red Planet for colonization by man. Peters, spitting out an experimental mouthful of the overly tart flesh, spluttered, "Not by *this* man!"

South they ran, their metal tracks rattling over low stony hills, over plains of shingle that might once have been the vast beaches of some long-forgotten sea. South they ran, through a forest of tall, columnar plants, brittle, whose branches, shaken by the vibration of their passing, shattered with the crystalline clatter of breaking glass. It was here that both tents were badly torn; until the convoy was clear of the forest, when repairs were made, the men had to live in their suits and helmets.

A day ahead of time they reached the Equator, and Peters steered east until he found what he decided was the best site for a landing strip. It was to the west of one of the canals, and the sand was fine, but not too fine, and there were no buried rocks. Even so, it was necessary to use the earth-levelling equipment that they had brought with them, the grader blades that could be fitted to the tractors.

Peter drove his men, and after two days' hard work the strip was ready. Messages were exchanged between the tractors and the ships then, when word was received that the rockets had already entered the atmosphere, the smoke bombs were set off, their long streamers of white vapor showing the direction of the wind.

The six members of the first landing party stood by their tractors, which had been withdrawn well clear of the landing strip, and scanned the clear sky for the first sight of the ships. They appeared suddenly — mere silvery specks at first, but expanding with almost frightening rapidity to vast, winged shapes. One after the other they swept down, vanishing momentarily, as their skis touched the surface, in clouds of upflung red sand. Then there was the handshaking and the shouted congratulations and, finally, the planning of the campaign for the further exploration of Mars.

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Taylor didn't like Grant. He felt, as did all those who had made the first landing, a little superior to those who had come in to the prepared strip on the Equator. He felt that Mars was, by right of first occupancy, his planet—but Grant made it all too clear that he thought that Mars was his. Technically, Grant, who was the biologist of the expedition, was Taylor's superior—and this, too, he made all too clear.

He was excited when he called Taylor into his tent—but he contrived to hide his excitement beneath a mask of maddening superiority.

"You fellows," he said, "came all the way from the Pole to the Equator with your eyes shut."

"We did not," said Taylor.

"But you did, my dear Doctor, you did. You assured me that there was no evidence of the existence of animal life on Mars. As for intelligent life—*that*, you said, was entirely out of the question."

"There is no evidence," said Taylor dogmatically.

"Isn't there? It may interest you to know, Doctor Taylor, that I have found an artifact . . ."

"Where is it?" asked Taylor, suddenly excited.

"Come with me," said the biologist.

The two men put on their helmets, left the pressurized tent. Grant led the way to the canal, then along its bank to a sharp bend. Past this bend there was a patch of damp sand on which, for some as yet inexplicable reason, none of the pumpkinlike plants was growing. Save in one spot the surface of the sand was smooth—and there somebody, something had been digging. He—or it—had done more than dig. In a neat row stood six little towers on the sand, six little towers of sand, six little truncated cones.

"Fantastic!" breathed Taylor. He looked around him, almost expecting to see deck chairs, a cockle stall, an ice-cream barrow.

He said, "But those aren't necessarily artifacts. There are plenty of worms on Earth that eat mud and sand, passing it through their bodies as all organic matter is extracted . . ."

"I thought of that," said Grant, "but the idea won't hold water. It's a Martian who's done this—an intelligent being letting us know that he's around . . ."

"An intelligent being," argued Taylor, "would have scratched Pythagoras' Theorem on the sand."

"Not necessarily. For all we know these six little sand castles, in a straight line, represent some glaringly obvious mathematical truth—to a Martian, that is . . ."

"Have you told the commodore yet?" asked Taylor.

"No," said Grant. "I'll tell him when I'm ready."

"In other words," said Taylor, "you'll tell him when you can lead a real, live Martian up to him by the hand and say, 'Please, sir, Commodore Jones, sir, look what I've found, sir!' "

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"Cut out all the 'sirs'," said Grant coldly, "and you've got it. I think it quite disgraceful that men of science should be under the orders of naval brass hats . . ."

"I'm a naval officer myself," Taylor reminded him.

"I'm sorry, *Surgeon Commander* Taylor. I forgot. But I'm still your boss, even though the commodore is mine. Anyhow, Doctor—you know these naval types. Don't you agree that if they do find out that there's a Martian in the vicinity there's liable to be all sorts of warlike activity that'll do more harm than good?"

"All right," said Taylor, after a long pause. "We keep it dark for the time being—just our own little secret. What then?"

"Tracks," said Grant. "You can see that something has walked over the sand. A biped, I'd say, with big feet like a camel's. Unluckily it went over that patch of bare rock, and beyond that there're the stony hills and that warren of canyons . . ."

Taylor stared at the little mounds, already crumbling as the dry air sucked the moisture from them.

"These couldn't have been made so long ago," he said. "What's your guess?"

"About an hour after the morning thaw," said Grant. "Say about 0930 Local Time. Now, here's what I propose doing. We get shovels from the camp, and a sheet of aluminum—they've already started dismantling the wings of the ships, ready for blasting off. (Why the hurry, God knows!) We dig a trench, roof it over with the metal sheet, cover the aluminum with sand. We'll leave peepholes for ourselves, of course . . ."

"And when are we doing all this?"

"Now. But we'll come to the blind first thing tomorrow morning, before sunrise. You'll see that the sand is levelled off smoothly, and then leave me to keep a watch . . ."

"I'll do nothing of the kind," said Taylor. "I shall be in the blind with you. Oh, it's all right—I think I'll be able to get somebody to cover us up and keep his mouth shut. Wesley—he was our navigator on the run south. I'm sure he'll . . ."

The most awkward part of the construction of the blind was the "borrowing" of the aluminum sheets. This was accomplished when all members of the expedition were at their midday meal. Digging the trench took very little time; the excavated sand was thrown into the shallow water of the canal.

Taylor, rather to his surprise, slept soundly that night. He was able to awaken at any time without being called, and on this morning the gift stood him in good stead. He went first to the pressurized tent where Grant slept alone, shook the biologist into wakefulness. He then went to the tent that Wesley shared with three other junior officers,

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all of whom, luckily, were sound sleepers.

The sun—small and weak it seemed—rose as the three men reached the blind. They brushed the sand from the aluminum sheets, lifted them, and then Taylor and Grant clambered into the trench. Wesley replaced the sheets. Faintly through their helmets they could hear the scraping sound as he respread the sand. He rapped sharply with his heel three times to indicate that he was going.

Neither Taylor nor Grant had his helmet radio switched on; they talked by bringing their helmets into contact with each other. They did not have much to say to each other. They stared through the observation holes, watching for the Martian to appear from the hills, to leave his message on the sand.

He came at last—a tall, shambling figure, humanoid.

Humanoid? thought Taylor. Humanoid?

Feet and body were wrapped in layer upon layer of shapeless rags—but on the shoulders there was the dull gleam of metal braid, of epaulettes. The face was dark brown where it was not covered by a thick, black beard. The black hair hung down to the being's waist.

It—he? — squatted on the smooth sand. Working with silent concentration it filled the little, bucket-shaped container it was carrying with the moist grains, patted them tight, upended it . . .

"But it's . . ." Taylor began to whisper.

The Martian—even though the words were spoken inside the helmet of a spacesuit—heard the sound and took alarm. In a second he was gone, loping over the rocks, vanishing among the canyons of the hills.

Taylor and Grant came out from the blind.

Taylor picked up the little "pail" that the Martian had dropped. It must have been a food container. He pointed to the characters, faded but still visible, on the dented metal. "There'll be a wreck in the hills," he said. "A spaceship. It'll have a hammer and sickle painted on the bows, or the tail fins . . ."

"And it's not a Martian at all," Grant whispered. "Just a survivor, a crazy survivor . . ."

"No," said Taylor. "A Martian. Perhaps *the* Martian. That Russian ship had a mixed crew, you know. A child born here, brought up here, could, conceivably, manage to get along without a spacesuit, a helmet . . . (If only Lysenko were alive to see this!) You've found your Martian . . ."

And what of the mother of a race? he wondered. What of the woman, who, clinging desperately to memories of a childhood spent on the shores of the Baltic or the Black Sea, had taught her son how to make castles in the sands of Mars? **THE END**

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(Continued from page 66

"I'm not moving the satellite any farther."

"But you still have not enough fuel to return to Earth. Why are you stopping here?"

"I'm not coming back," Tom answered. "But I'm not going to beam the satellite's power to the settlement, either."

"What are you trying to pull?" Jason's voice. Furious. Panicky.

"It's simple, Jason. If you want the satellite's power, you can dismantle the settlement and carry it to Pennsylvania. The transmitters are aimed at some good farming country, and within miles of a city that's still half-intact."

"You're insane!"

"Not at all. We're keeping our deal, Jason. I'm giving you the satellite's power, and you're going to allow exploration of the cities. You won't be able to prevent your people from rummaging through the cities now; and you won't be able to keep the outsiders from joining you, not once you get out from behind your own fences."

"You can't do this! You . . ."

Tom snapped off the radio. He looked at it for a second or two, then smashed a heavy-booted foot against the console. Glass and metal crashed satisfactorily.

Okay, Tom thought, *it's done. Maybe Jason's right and I'm crazy, but we'll never know now. In a year or so they'll be set up outside Philadelphia, and a lot better for it. I'm forcing them to take the long way back, but it's a better way. The only way, maybe.*

He leaned back in the seat and stared out the observation port at the completed satellite. Already it was taking in solar energy and beaming it Earthward.

In ten years they'll send another ship up here to check the gadget and make sure everything's okay. Maybe they'll be able to do it in five years. Makes no difference. I'll still be here.

THE END

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